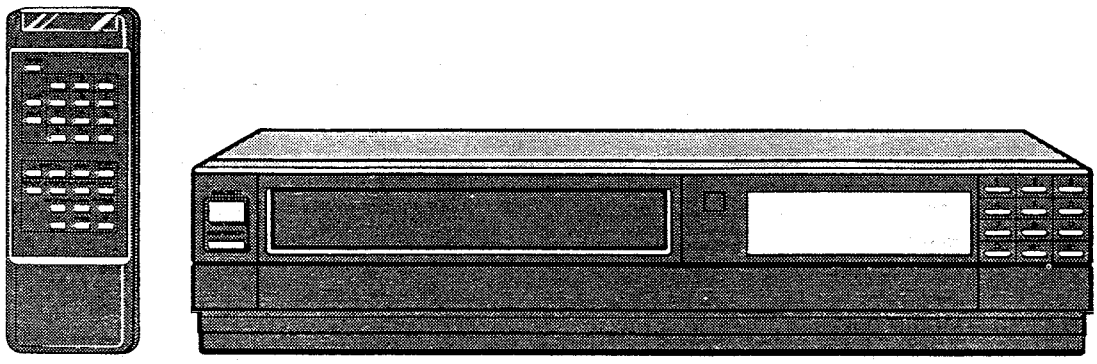
SERVICE MANUAL

SANYO

# VHR-3400I
# VHR-3500 Series

## COLOUR VIDEO CASSETTE RECORDER

VHS HQ
PAL



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BP3 SERIES

REFERENCE NO. WM-20889

## 1. LOCATION OF THE MAIN BOARDS

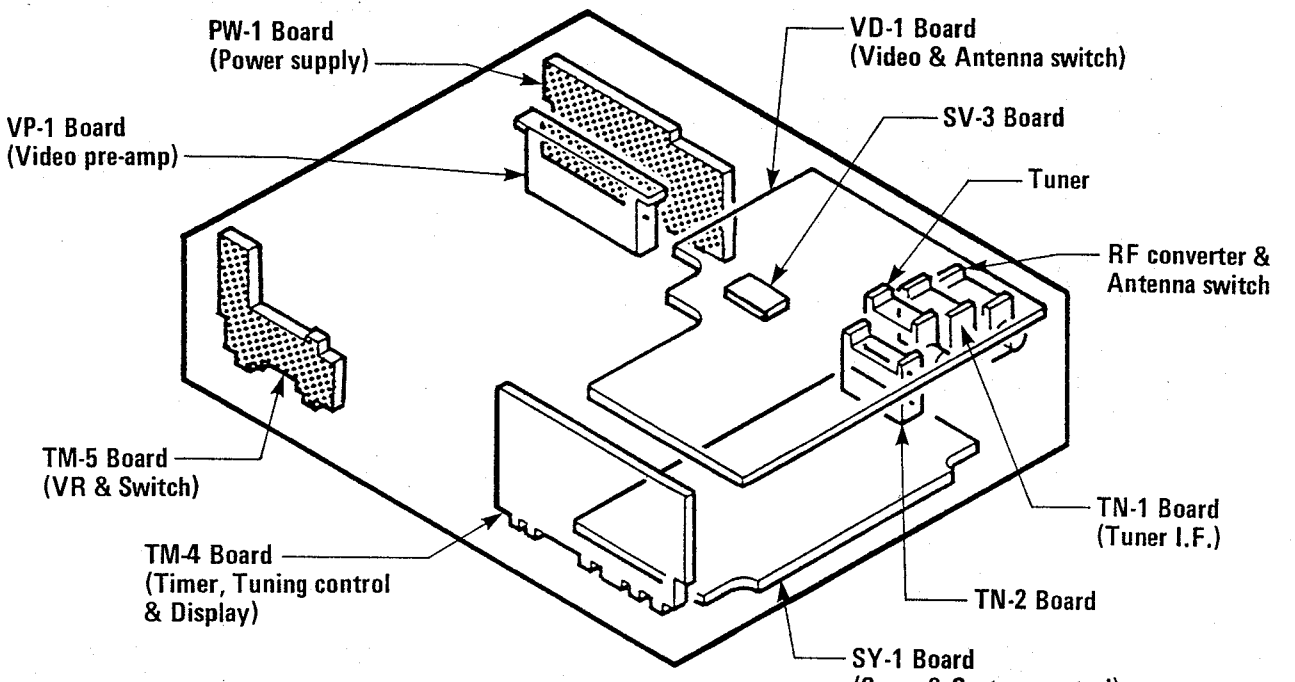



Fig. 1-1-1

## 2. ELECTRICAL ADJUSTMENTS

### 2-1. PREPARATIONS

#### 2-1-1. EQUIPMENT

- Colour TV monitor
- Colour-bar generator (With RF and LINE OUTPUT)
- Audio frequency osillator
- Attenuator
- Oscilloscope (dual trace; frequency: 10 MHz or more; probe: 10:1)
- Frequency counter (countable to 10 MHz or higher)
- Digital voltmeter
- AC voltmeter
- IN/OUT probes
- Alignment cassette (VHJ-0008) Colour-bar 1 KHz
- Alignment cassette (VHJ-0009) Monoscope 6 KHz
- Alignment cassette (VHJ-0010) RF sweep
- Alignment cassette (VHJ-0023) PAL Monoscope 6 KHz, PAL Colour-bar 1 KHz, SECAM Colour-bar 1 KHz, PAL RF sweep, MESECAM Colour-bar 1 KHz, NTSC Colour-bar 1 KHz.

#### 2-1-2. SET-UP

Because the RF input signal is used for adjustment of circuits, connect the colour-bar generator to the ANT IN terminal of the VCR. The RF input signal is processed by the tuner and IF circuit. It is important that the video output signal of the IF circuit satisfy the items shown in figure. Connect the oscilloscope to the VIDEO OUTPUT terminal of the video circuit, and then check the video output signal.

- The amplitude of the sync signal should be approximately 0.3Vp-p.
- The amplitude of the video signal should be approximately 0.7Vp-p.
- While observing the oscilloscope or TV screen, make fine-tuning adjustments so that the colour burst amplitude is approximately 0.3Vp-p.
- Check to be sure that there is no spike noise in the sync part of the horizontal sync signal.

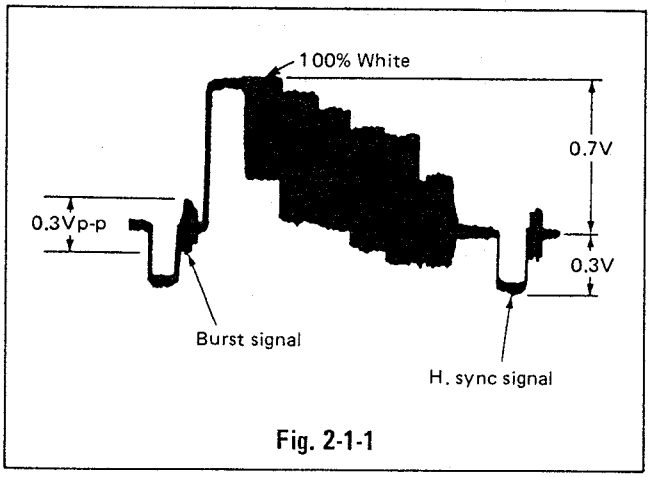
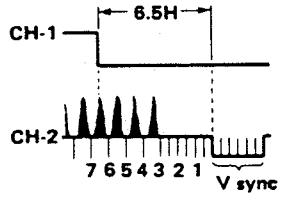
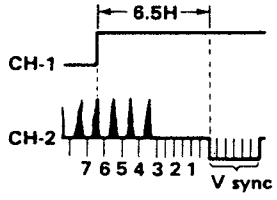
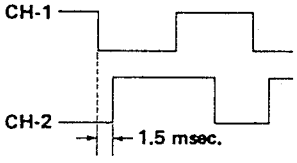
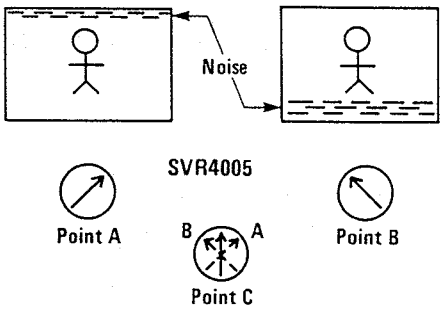
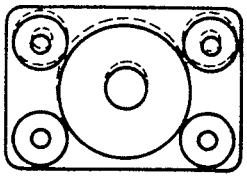



Fig. 2-1-1

## 2-2. SERVO CIRCUIT ADJUSTMENT ... SY-1 Board

| No. | Item | Input | Mode | Point | Location | Remark |
|---|---|---|---|---|---|---|
| 1 | CH-1 SWITCHING POSITION | Alignment cassette (VHJ-0009 or VHJ-0023) | PLAY | TP1001 (VIDEO OUT terminal)<br>CN4008 ① (trigger) | SVR4001 |  <br>Adjust SVR4001 so that the phase of the leading edge of the vertical sync signal is delayed 6.5 ±0.5H from the fall of the CH-1 waveform. |
| 2 | CH-2 SWITCHING POSITION | Alignment cassette (VHJ-0009 or VHJ-0023) | PLAY | TP1001 (VIDEO OUT terminal)<br>CN4008 ① (trigger) | SVR4002 |  <br>Adjust SVR4002 so that the phase of the leading edge of the vertical sync signal is delayed 6.5 ±0.5H from the rise of the CH-1 waveform. |
| 3 | TRACKING | Colour bar from Colour bar generator | REC ⬇ PLAY | CN4008 ④<br>CN4008 ① (trigger) | SVR4003 |  <br>1. Playback the recorded portion, and set the tracking control to the center click position.<br>2. Adjust SVR4003 so that the phase of the rise of the CH-2 waveform is 1.5 ±0.5msec after the fall of the CH-1 waveform. In this instance, delay the CH-2 waveform. |
| 4 | STILL V-LOCK | Colour bar from Colour bar generator | REC ⬇ PLAY ⬇ STILL | TV screen | VR4004 | 1. Playback the recorded portion and put the VCR in the STILL mode.<br>2. Adjust VR4004 so that the V jitter (very fine movement of the vertical sync) is minimized. |

NOTE: Adjustment No.7 is unnecessary for VHR-3400I.

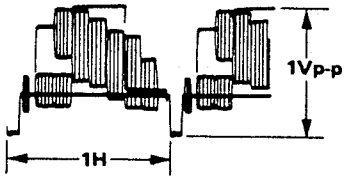
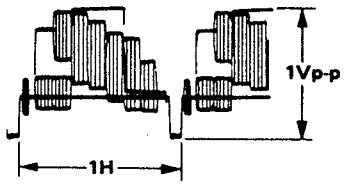
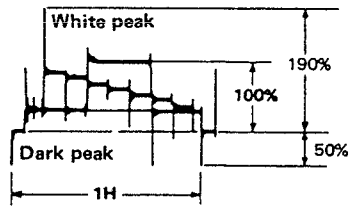
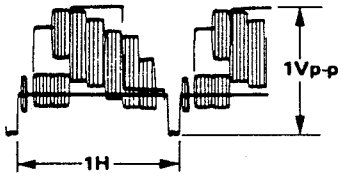
| No. | Item | Input | Mode | Point | Location | Remark |
|---|---|---|---|---|---|---|
| 5 | SLOW TRACKING | Any TV broadcast | REC ⬇ PLAY ⬇ SLOW | TV screen | SVR4005 |  <br>1. Playback the recorded portion, and put the VCR in the SLOW mode.<br>2. Set the tracking control to the center position.<br>3. Observe the noise at the upper and Lower edges of the TV screen.<br>4. Turn SVR4005. The position of the SVR at which noise begins to appear at the upper edge of the TV screen is point A.<br>5. Turn SVR4005 once again. The position of the SVR at which noise begins to appear at the lower edge of the TV screen is point B.<br>6. Adjust SVR4005 to a point half way between point A and point B. This point is point C. |
| 6 | SLOW V JITTER | Any TV broadcast | REC ⬇ PLAY ⬇ SLOW | TV screen | SVR4007 |  <br>TV screen<br>1. Playback the recorded portion, and put the VCR in the SLOW mode.<br>2. Adjust SVR4007 so that the V jitter (very fine movement of the vertical sync) is minimized. |
| 7 | X2 PLAYBACK | Any TV broadcast | REC ⬇ PLAY ⬇ X2 PLAY | TV screen | SVR4006 | 1. Set the tracking control to the center position.<br>2. Playback the recorded portion, and put the VCR in the X2 PLAY mode.<br>3. Observe the noise on the TV screen, and Adjust SVR4006 so that the noise disappears. |

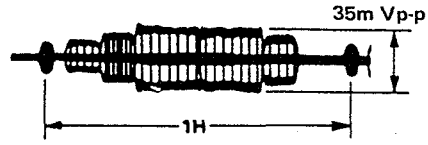
## 2-3. VIDEO CIRCUIT ADJUSTMENT ... VD-1 Board

NOTE (1): When adjusting No. 1, No. 2 and No. 5 terminate VIDEO OUTPUT terminal (CN1021 pin ⑲ or RCA terminal) at 75 ohms.

(2): To make this adjustment, alternately make the adjustments described in No. 4 and No. 5 below. Repeat this procedure until both adjustment values are satisfied.

(3): No-signal E-E mode is do not supply any signal to VIDEO INPUT terminal. (CN1021 pin ⑳)

| No. | Item | Input | Mode | Point | Location | Remark |
|---|---|---|---|---|---|---|
| 1 | E-E LEVEL | Colour bar from Colour bar generator | E-E | TP1001 | SVR1007 |  Adjust SVR1007 so that the level is 1.00 ±0.05 Vp-p. |
| 2 | PLAYBACK LEVEL | Alignment cassette (VHJ-0008 or VHJ-0023) | PLAY (Colour bar) | TP1001 | SVR1006 |  Adjust SVR1006 so that the level is 1.00 ±0.05 Vp-p. |
| 3 | DARK CLIP AND WHITE CLIP | Colour bar from Colour bar generator | E-E | TP1002 (IC1101 ⑳ pin) | SVR1005 (DARK CLIP)<br>SVR1002 (WHITE CLIP) |  1. Adjust SVR1005 so that the dark peak is 50 $^{+0}_{-5}$ %.<br>2. Adjust SVR1002 so that the white peak is 190 $^{+0}_{-5}$ %. |
| 4 | CARRIER SET | None NOTE (3) | E-E | TP1006 (CN1001) ⑥ | SVR1003 | 1. Set the TU/AV button to the AV position and put the VCR in the no-signal mode.<br>2. Adjust SVR1003 so that the frequency is 3.80 ±0.05 MHz. |
| 5 | DEVIATION | Colour bar from Colour bar generator | REC (Adjustment) ⬇ PLAY (Check) | TP1001 | SVR1004 |  1. Playback the recorded part, and check that the level is 1.00 ±0.05Vp-p.<br>2. If the level is not 1.00 ±0.05Vp-p, adjust SVR1004, record and playback it until the value is satisfied. |

| No. | Item | Input | Mode | Point | Location | Remark |
|---|---|---|---|---|---|---|
| 6 | VXO | Brank tape | PLAY | TP1007 | SVR1201 | Adjust SVR1201 so that the frequency is 4433619 ±20Hz. |
| 7 | CCD LEVEL | Colour bar from Colour bar generator | E-E | TP1003 (IC1101 ⑧pin) TP1004 (IC1101 ⑨pin) | SVR1121 | Adjust SVR1121 so that the same level of TP1003 and TP1004 waveforms. |
| 8 | CHRO-MINANCE SIGNAL RECORDING CURRENT | Colour bar from Colour bar generator | REC | CN1603① (HOT) CN1603③ (GND) (See Fig. 2-1-4) | SVR1202 |   1. Turn SVR1001 all the way to the right, looking from the parts side. 2. Adjust SVR1202 so that the level is 35 ±2 mVp-p. |
| 9 | LUMINANCE SIGNAL RECORDING CURRENT | B/W signal from Colour bar generator | REC | CN1603① (HOT) CN1603③ (GND) | SVR1001 | Adjust SVR1001 so that the level is 115 ±5 mVp-p. |

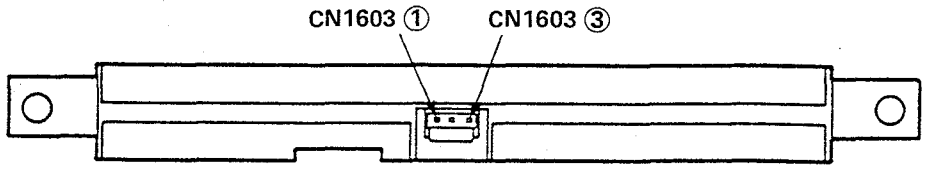



Fig. 2-1-4 VP-1 Board

## 2-4. TUNER IF CIRCUIT ADJUSTMENT

| No. | Item | Input | Mode | Point | Location | Remark |
|---|---|---|---|---|---|---|
| 1 | RF AGC | TV broadcast | E-E | TV screen | SVR6001 | Turn SVR6001 in the direction which causes snow to appear, then in the opposite direction until the snow just disappears. |

## 2-5. AUDIO CIRCUIT ADJUSTMENT ... VD-1 Board

NOTE (1): No-signal record mode is do not supply any signal to the AUDIO INPUT terminal. (CN1021 pin ②⑥ or RCA terminal)
(2): Adjustment No.2 is unnecessary for VHR-3500 series.
(3): Adjustment No.3 is unnecessary for VHR-3400I.

| No. | Item | Input | Mode | Point | Location | Remark |
|---|---|---|---|---|---|---|
| 1 | BIAS | None | REC | TP2004<br>TP2005 (GND) | SVR2001 | 1. Set the TU/AV button to the AV position and put the VCR in the no-signal record mode.<br>2. Adjust SVR2001 so that the level is 24 mVrms. |
| 2 | PLAYBACK OUTPUT LEVEL NOTE (1), (2) | Audio signal (1 KHz, –3.8 dBs) from Audio signal generator | REC ⬇ PLAY | AUDIO OUT terminal (CN1021 ① or ③) | SVR2002 | Adjust SVR2002 so that the recorded 1 KHz output level becomes –3.8 dBs in the PLAY mode. |
| 3 | PLAYBACK OUTPUT LEVEL NOTE (1), (3) | Audio signal (1 KHz, –20 dBs) from Audio signal generator | REC ⬇ PLAY | AUDIO OUT terminal | SVR2002 | Adjust SVR2002 so that the recorded 1 KHz output level becomes –8 dBs in the play mode. |

## 2-6. TEST POINT & ADJUSTMENT LOCATION

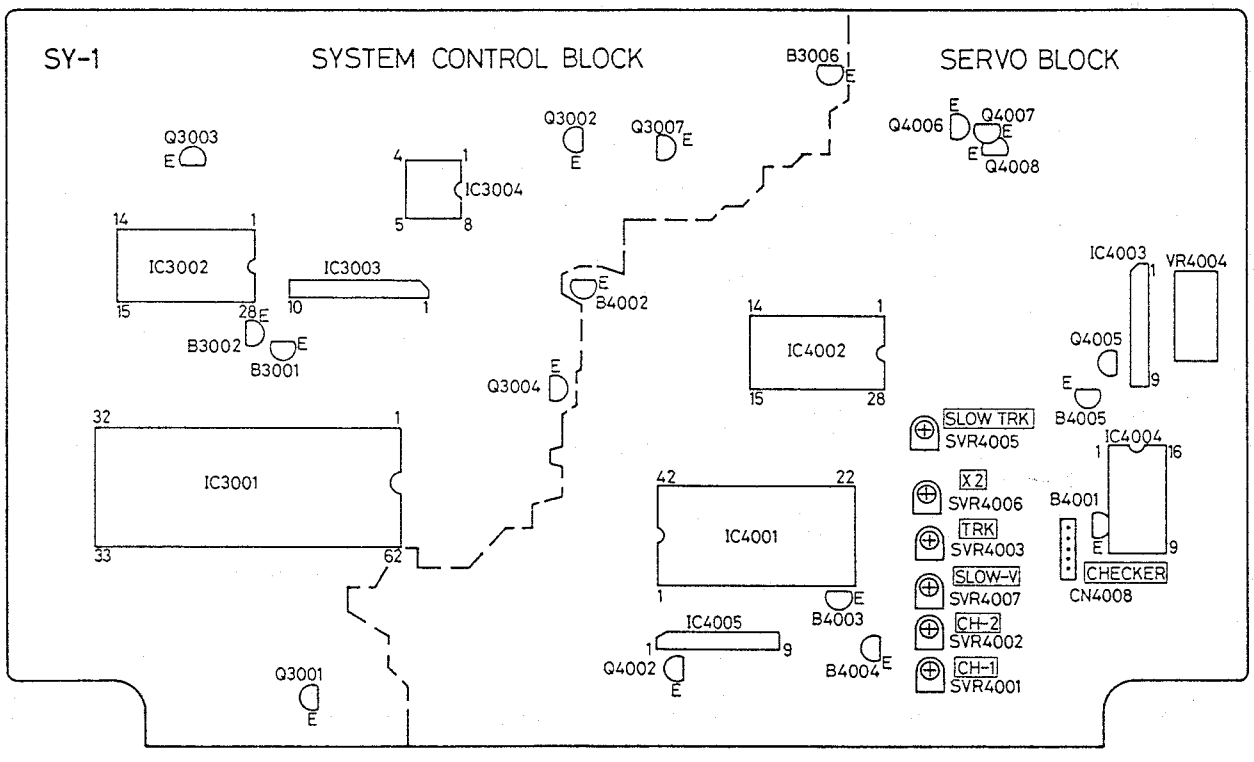



Fig. 2-6-1 SY-1 Board (Parts side view)

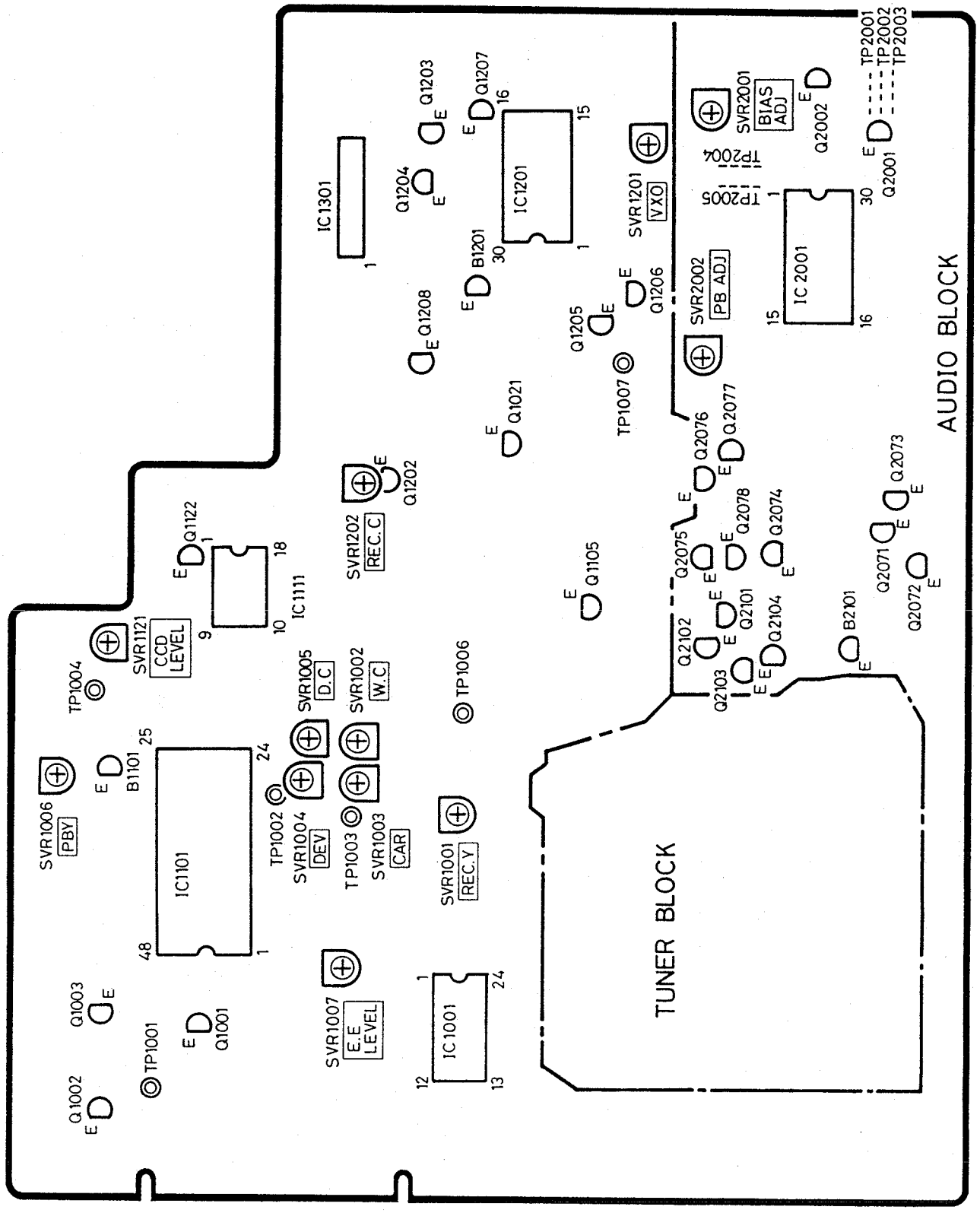



Fig. 2-6-2 VD-1 Board (Parts side view)



SANYO Electric Co., Ltd.
OSAKA, JAPAN
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VH37

PARTS LIST &
CIRCUIT DIAGRAMS

SANYO

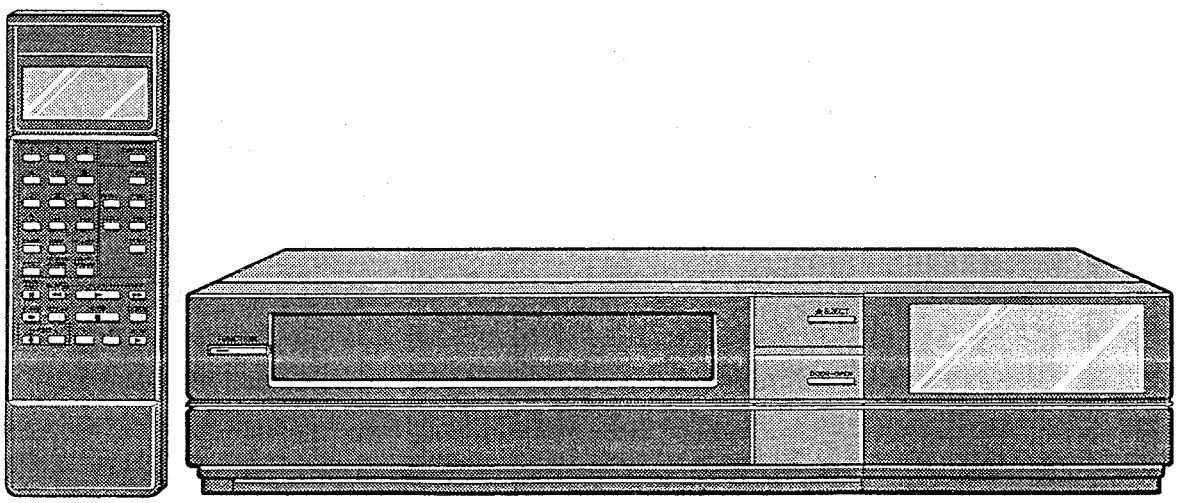
# VHR-3500EX (EUROPE)

# COLOUR VIDEO CASSETTE RECORDER

VHS HQ
PAL

Please see other materials with Reference No. given in table below.

| Materials | Model No. | Reference No. |
|---|---|---|
| SERVICE MANUAL | VHR-3400 Series | WM-20889 |
| MECHANISM MANUAL | VHR-3300, 3500 Series | WM-19932 |
| TRAINING MANUAL | VHR-3300 Series etc. | WM-19931 |



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**PRODUCT SAFETY NOTICE**

The components designated by a symbol (⚠) in this schematic diagram designates components whose value are of special significance to product safety. Should any component designated by a symbol need to be replaced, use only the part designated in the Parts List. Do not deviate from the resistance, wattage and voltage ratings shown.

**NOTE** : Parts order must contain Model Number, Part Number and Description.

## ACCESSORIES

| Ref No. | Part No. | Description |
|---|---|---|
| | 143-6-411T-94601 | INSTRUCTION MANUAL |
| | 143-9-4100-68901 | REMOTE CONTROL UNIT |
| | 4-243V-40600 | ANTENNA OUTPUT CABLE |
| | 143-6-415T-03100 | NOTICE |

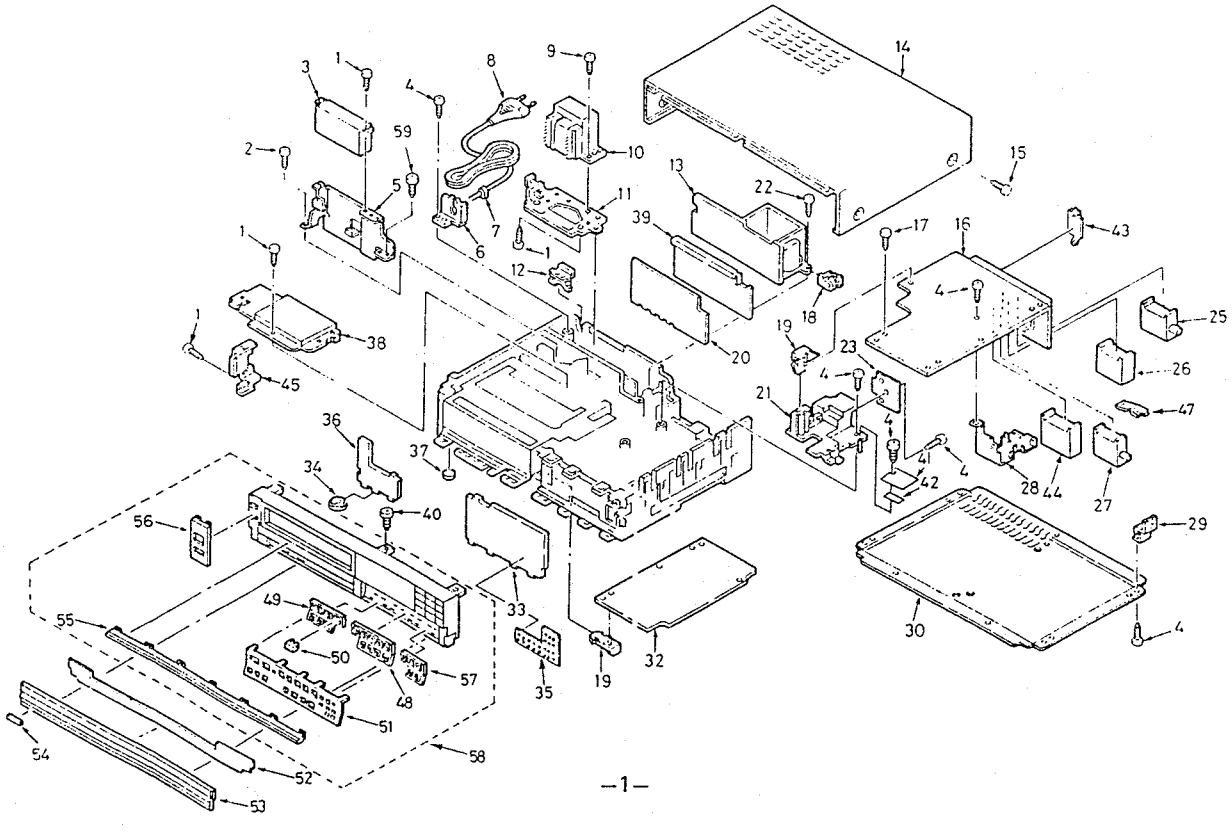
## PACKING MATERIALS

| Ref No. | Part No. | Description |
|---|---|---|
| | 143-6-132T-78276 | INNER CARTON |
| | 143-6-251T-16600 | INDIVIDUAL POLY.COVER |
| | 143-6-144T-18700 | PAD,FRONT |
| | 143-6-144T-18800 | PAD,REAR |

## CABINET & CHASSIS PARTS

| Ref No. | Part No. | Description |
|---|---|---|
| 1 | 411 021 6405 | SCR S-TPG BIN 3X8 |
| 2 | 411 045 6702 | SCR PAN-SW 3X8 |
| 3 | 143-0-233V-43801 | VP-1 BOARD ASSEMBLY |
| 4 | 411 021 4005 | SCR S-TPG BIN 3X12 |
| 5 | 143-2-351T-79700 | BRACKET,VP-1 BOARD |
| 6 | 143-2-310T-08200 | BRACKET,POWER CORD |
| 7 | 143-2-464T-02700 | FIXER,POWER CORD |
| 8 | ⚠ 143-0-236V-67530 | POWER CORD |
| 9 | 411 021 9109 | SCR S-TPG BIN 4X6 |
| 10 | ⚠ 4-251V-63120 | POWER TRANSFORMER |
| 11 | 143-2-371T-02200 | BRACKET TRANSFORMER |
| 12 | 143-2-210T-09900 | BRACKET,POWER CORD |
| 13 | 143-0-233V-43594 | PW-1 BOARD ASSEMBLY |
| 14 | 143-2-111T-10001 | CABINET |
| 15 | 412 024 7604 | SPECIAL SWITCH,15A BTZ3X10 |
| 16 | 143-0-233V-51202 | VD-1 BOARD ASSEMBLY |
| 17 | 411 021 4203 | SCR S-TPG BIN 3X12 |
| 18 | 143-2-352T-24000 | SPACER, HEAT SINK(INCLUDE PW-1) |
| 19 | 143-2-251T-01400 | HINGE |
| 20 | 143-2-322T-88600 | SHIELD PLATE |
| 21 | 143-2-210T-10100 | BRACKET |
| 22 | 411 021 4302 | SCR S-TPG BIN 3X14 |
| 23 | 143-0-233V-09824 | TM-3 BOARD ASSEMBLY |
| 25 | 143-9-4300-84200 | RF CONVERTER |
| 26 | 143-0-233V-36222 | TN-1 BOARD ASSEMBLY |
| 27 | 4-115V-25500 | TUNER |
| 28 | 143-2-359T-02910 | BRACKET TUNER |
| 29 | 143-2-310T-08500 | BRACKET,CABINET |

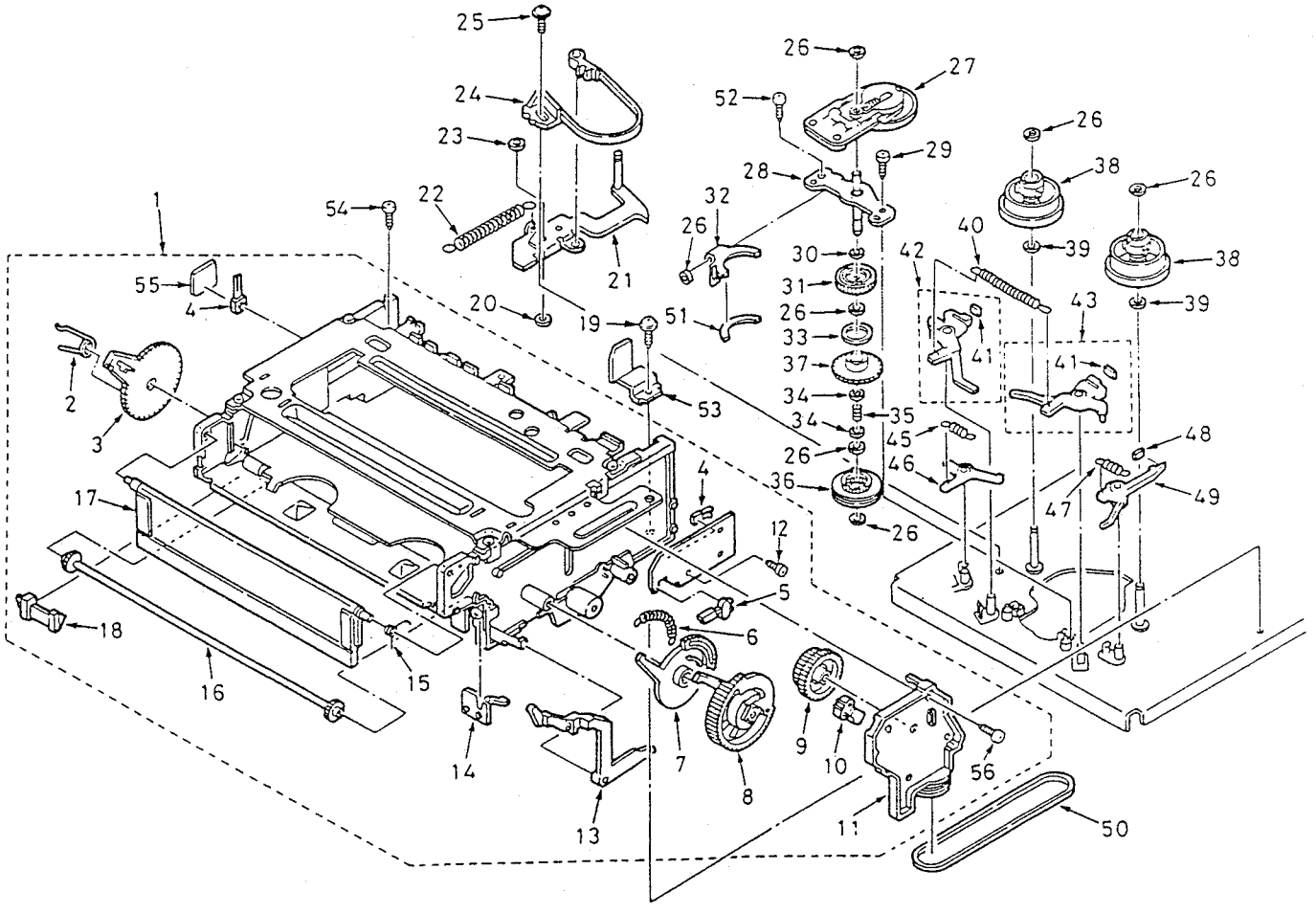
| Ref No. | Part No. | Description |
|---|---|---|
| 30 | 143-2-125T-09300 | BOTTOM PLATE |
| 32 | 143-0-233V-53600 | SY-1 BOARD ASSEMBLY |
| 33 | 143-0-233V-49422 | TM-4 BOARD ASSEMBLY |
| 34 | 143-2-163T-08000 | ROTARY KNOB |
| 35 | 143-2-161T-82100 | PUSH BUTTON(INCLUDE TM-4) |
| 36 | 143-0-233V-49521 | TM-5 BOARD ASSEMBLY |
| 37 | 143-2-174T-02402 | STAND |
| 38 | 143-2-322T-85800 | SHIELD PLATE |
| 39 | 143-2-327T-14300 | INSULATOR |
| 40 | 411 020 9100 | SCR S-TPG BRZ-FLG 3X12 |
| 41 | 143-0-233V-62400 | SV-3 BOARD ASSEMBLY |
| 42 | 143-2-327T-15100 | INSULATOR,SV-3 BOARD |
| 43 | 143-2-133T-26000 | COVER,VPS |
| 44 | 143-0-233V-49221 | TN-2 BOARD ASSEMBLY |
| 45 | 143-2-351T-80100 | BRACKET,SHIELD PLATE |
| 47 | 143-2-853T-18800 | SPRING PLATE |
| 48 | 143-2-161T-81800 | PUSH BUTTON,TIMER |
| 49 | 143-2-161T-81710 | PUSH BUTTON,OPERATION |
| 50 | 143-2-161T-82000 | PUSH BUTTON,REC |
| 51 | 143-2-143T-84750 | MARKING PLATE |
| 52 | 143-2-245T-00201 | BACK PLATE,COVER |
| 53 | 143-2-133T-26521 | TIMER COVER |
| 54 | 143-2-142T-06600 | BADGE |
| 55 | 143-2-152T-05211 | SASH |
| 56 | 143-2-153T-23100 | ESCUTCHEON |
| 57 | 143-2-161T-81900 | PUSH BUTTON,TUNING |
| 58 | 143-9-122T-26330 | FRONT PANEL ASSEMBLY |
| 59 | 411 045 4807 | SCR PAN-SW 3X4 |



**MECHANISM PARTS 1**

| Ref No. | Part No. | Description |
|---|---|---|
| 1 | 143-9-351T-78554 | BRACKET MTG ASSY |
| 2 | 143-2-851T-89900 | SPRING COIL |
| 3 | 143-2-581T-15600 | GEAR |
| 4 | 407 098 3201 | PHOTO COUPLE PN150SAN |
| 5 | 4-231V-86900 | SPECIAL SWITCH |
| 6 | 143-2-851T-89800 | SPRING COIL |
| 7 | 143-2-581T-15500 | GEAR |
| 8 | 143-2-581T-15400 | GEAR |
| 9 | 143-2-581T-15800 | GEAR |
| 10 | 4-231V-87100 | SPECIAL SWITCH |
| 11 | 143-0-351T-78300 | BRACKET MTG ASSY |
| 12 | 411 021 6405 | SCR S-TPG BIN 3X8 |
| 13 | 143-2-741T-64500 | LEVER |
| 14 | 143-2-853T-18200 | SPRING PLATE |
| 15 | 143-2-851T-90000 | SPRING COIL |
| 16 | 143-0-751T-99200 | SHAFT ASSY |
| 17 | 143-2-133T-24420 | COMPARTMENT LID |
| 18 | 4-231V-87000 | SPECIAL SWITCH |
| 19 | 411 036 3208 | SCR PAN+SW+W 3X10 |
| 20 | 412 012 8309 | SPECIAL WASHER |
| 21 | 143-0-741T-65200 | LEVER ASSY |
| 22 | 143-2-851T-87701 | SPRING COIL |
| 23 | 412 021 4903 | SPECIAL WASHER |
| 24 | 143-0-711T-02101 | BRAKE BAND ASSY |
| 25 | 411 046 9702 | SCR PAN+SW+W 3X6 |
| 26 | 412 015 9600 | SPECIAL WASHER |
| 27 | 143-0-662T-15621 | ROLLER ASSY REEL DRIVE |
| 28 | 143-0-351T-76900 | BRACKET MTG ASSY |
| 29 | 411 023 4201 | SCR S-TPG PAN 3X10 |
| 30 | 412 015 8900 | SPECIAL WASHER |
| 31 | 143-2-661T-72800 | PULLEY |

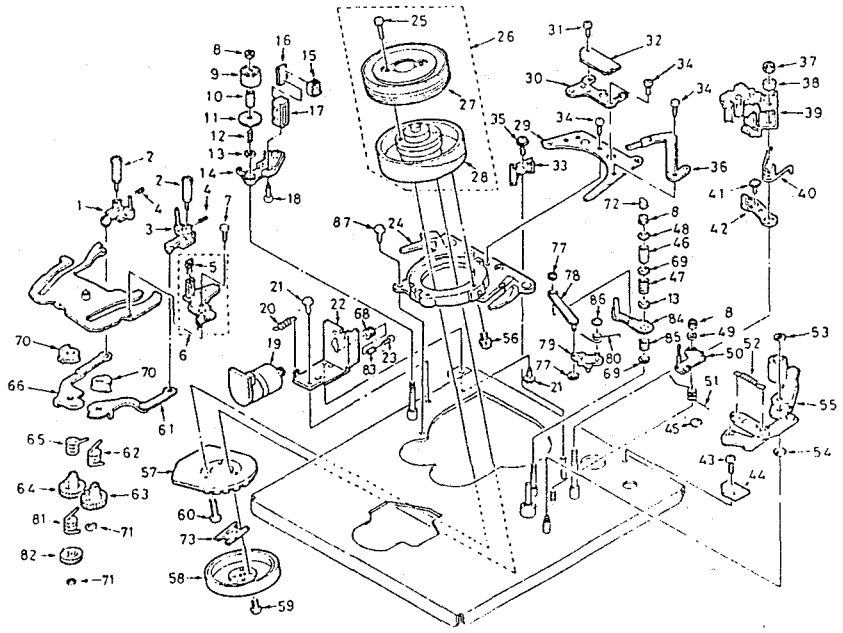
| Ref No. | Part No. | Description |
|---|---|---|
| 32 | 143-2-741T-62100 | LEVER |
| 33 | 412 024 8601 | SPECIAL WASHER 0.5T |
| 34 | 412 015 8702 | SPECIAL WASHER |
| 35 | 143-2-851T-86800 | SPRING COIL 0.5T |
| 36 | 143-2-561T-72701 | PULLEY |
| 37 | 143-2-581T-13700 | GEAR |
| 38 | 143-0-531T-05421 | REEL PLATE ASSY |
| 39 | 412 015 8504 | SPECIAL WASHER D3.1XD6X0.5T |
| or | 412 015 8603 | SPECIAL WASHER D3.1XD6X0.25T |
| or | 412 015 8702 | SPECIAL WASHER D3.1XD6X0.13T |
| or | 412 015 8801 | SPECIAL WASHER 0.2T |
| or | 412 015 8900 | SPECIAL WASHER 3.1X6X0.4T |
| or | 412 021 5306 | SPECIAL WASHER D3.1XD6X0.3T |
| 40 | 143-2-851T-87600 | SPRING COIL |
| 41 | 143-2-712T-05200 | BRAKE SHOE |
| 42 | 143-0-741T-62200 | LEVER ASSY |
| 43 | 143-0-741T-62300 | LEVER ASSY |
| 45 | 143-2-851T-92501 | SPRING COIL |
| 46 | 143-2-741T-63400 | LEVER |
| 47 | 143-2-851T-92100 | SPRING COIL |
| 48 | 143-2-712T-05501 | BRAKE SHOE |
| 49 | 143-2-741T-62600 | LEVER |
| 50 | 143-2-564T-05300 | BELT FLONT LOADING |
| 51 | 143-2-246T-45500 | SHEET |
| 52 | 411 023 9800 | SCR S-TPG PAN 3X8 |
| 53 | 143-2-351T-80200 | BRACKET MTG |
| 54 | 411 047 7905 | SCR PAN+FLG 3X7 |
| 55 | 143-2-135T-32900 | COVER |
| 56 | 411 021 3503 | SCR S-TPG BIN 3X10 |



## MECHANISM PARTS 2

| Ref No. | Part No. | Description |
|---|---|---|
| 1 | 143-0-822T-03021 | BRACKET TAPE GUIDE ASSY |
| 2 | 143-0-821T-14400 | TAPE GUIDE ASSY |
| or | 143-0-821T-14500 | TAPE GUIDE ASSY |
| 3 | 143-0-822T-03121 | BRACKET TAPE GUIDE ASSY |
| 4 | 411 063 0706 | SCR SET HEX-SCT 2X2 |
| 5 | 407 094 2000 | LED LN59-SAN |
| 6 | 143-0-351T-79201 | BRACKET MTG ASSY |
| 7 | 412 021 1209 | SPECIAL SCREW |
| 8 | 412 015 8306 | SPECIAL NUT |
| 9 | 143-2-662T-15400 | ROLLER |
| 10 | 143-2-681T-17501 | SLEEVE |
| or | 143-2-681T-17500 | SLEEVE |
| 11 | 412 023 2105 | WASHER F 3X18X2 |
| 12 | 143-2-851T-91300 | SPRING COIL |
| 13 | 412 024 8502 | SPECIAL WASHER |
| 14 | 143-2-741T-63700 | LEVER |
| 15 | 4-235V-46502 | SOCKET |
| 16 | 4-233V-26300 | P C BOARD |
| 17 | 4-242V-24700 | MAGNETIC HEAD |
| 18 | 411 002 4901 | SCR PAN 2X4 |
| 19 | 4-527V-03010 | COMMUTATE MOTOR |
| 20 | 143-2-851T-89200 | SPRING COIL |
| 21 | 411 047 6809 | SCR PAN+FLG 3X4 |
| or | 411 047 8100 | SCR PAN+FLG 3X8 |
| 22 | 143-2-378T-02901 | BRACKET MOTOR |
| 23 | 411 047 7509 | SCR PAN+FLG 3X6 |
| 24 | 143-2-776T-02500 | BRACKET CYLINDER |
| or | 143-2-776T-02520 | BRACKET CYLINDER |
| 25 | 411 037 6208 | SCR PAN+W 3X8 |
| 26 | 143-0-771T-12520 | CYLINDER ROTARY HEAD ASSY |
| 27 | 143-0-771T-12500 | CYLINDER ROTARY HEAD ASSY |
| 28 | 143-0-771T-11600 | CYLINDER ROTARY HEAD ASSY |
| 29 | 143-2-351T-77500 | BRACKET MTG |
| 30 | 143-2-377T-21700 | BRACKET P C BOARD |
| 31 | 411 003 8809 | SCR PAN+SW 2.6X6 |
| 32 | 143-0-233V-48000 | MC30 ASSY |
| 33 | 143-2-351T-80000 | BRACKET MTG |
| or | 143-2-351T-80001 | BRACKET MTG |
| 34 | 411 003 8908 | SCR PAN+SW 3X6 |
| 35 | 411 020 9902 | SCR S-TPG BRZ+FLG 3X8 |
| or | 411 020 8905 | SCR S-TPG BRZ+FLG 3X10 |
| 36 | 143-0-324T-00925 | EARTH PLATE ASSY |
| 37 | 412 015 8207 | SPECIAL NUT |
| 38 | 143-2-352T-22800 | SPACER |
| 39 | 143-9-242V-27500 | MAGNETIC HEAD ASSY |
| 40 | 143-2-851T-89500 | SPRING COIL |
| 41 | 411 036 5301 | SCR PAN+SW+W 3X6 |

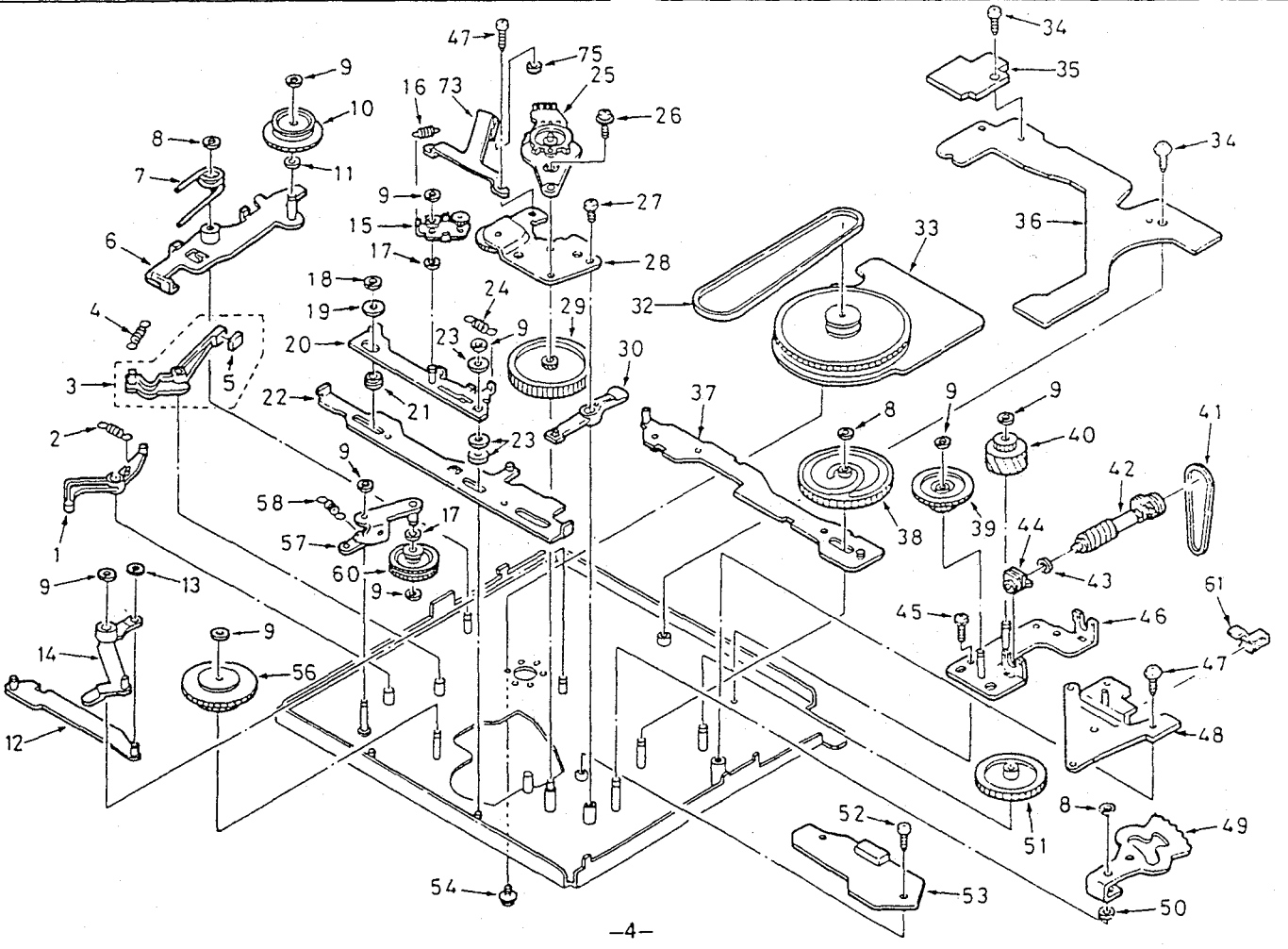
| Ref No. | Part No. | Description |
|---|---|---|
| 42 | 143-2-375T-11000 | BRACKET HEAD |
| 43 | 411 046 9702 | SCR PAN+SW+W 3X6 |
| 44 | 4-221V-18900 | RESISTOR |
| 45 | 412 021 4903 | SPECIAL WASHER |
| 46 | 143-2-821T-14100 | TAPE GUIDE |
| 47 | 143-2-851T-91300 | SPRING COIL |
| 48 | 412 023 1900 | WASHER F 3X6.5X0.5 |
| 49 | 412 015 8504 | SPECIAL WASHER |
| 50 | 143-0-741T-63300 | LEVER ASSY |
| 51 | 143-2-851T-87900 | SPRING COIL |
| 52 | 143-2-851T-87800 | SPRING COIL |
| 53 | 412 021 5207 | SPECIAL WASHER |
| 54 | 412 012 9108 | SPECIAL WASHER |
| 55 | 143-0-545T-02830 | LEVER PINCH ROLLER ASSY |
| 56 | 411 045 5408 | SCR PAN+SW 3X5 |
| 57 | 4-264V-17400 | MAGNETIC COIL |
| 58 | 143-2-774T-03110 | ROTOR |
| 59 | 411 044 9001 | SCR PAN+SW 2.3X6 |
| 60 | 411 044 8301 | SCR PAN+SW 2.3X10 |
| 61 | 143-0-741T-64122 | LEVER ASSY |
| 62 | 143-2-851T-89000 | SPRING COIL |
| 63 | 143-2-581T-15200 | GEAR |
| 64 | 143-2-581T-16400 | GEAR |
| 65 | 143-2-851T-90700 | SPRING COIL |
| 66 | 143-0-741T-64222 | LEVER ASSY |
| 68 | 143-2-445T-21300 | RUBBER CUSHION |
| 69 | 412 021 7102 | SPECIAL WASHER |
| or | 412 021 8901 | SPECIAL WASHER |
| 70 | 143-2-352T-23500 | SPACER |
| 71 | 411 000 9908 | RING E 3 |
| 72 | 143-2-681T-21100 | SLEEVE |
| 73 | 143-2-352T-23300 | SPACER |
| 77 | 412 015 9600 | SPECIAL WASHER |
| 78 | 143-0-741T-66000 | LEVER ASSY |
| 79 | 143-0-741T-66100 | LEVER ASSY |
| 80 | 143-2-851T-91200 | SPRING COIL |
| 81 | 143-2-851T-90800 | SPRING COIL |
| 82 | 143-2-581T-16500 | GEAR |
| 83 | 143-2-352T-24700 | SPACER |
| 84 | 143-0-741T-65900 | LEVER ASSY |
| 85 | 143-2-851T-92400 | SPRING COIL |
| 86 | 412 023 2006 | WASHER F 3X9.5X0.5 |
| 87 | 411 047 5307 | SCR PAN+FLG 3X10 |



**MECHANISM PARTS 3**

| Ref No. | Part No. | Description |
|---|---|---|
| 1 | 143-2-741T-62501 | LEVER |
| 2 | 143-2-851T-88800 | SPRING COIL |
| 3 | 143-0-741T-65100 | LEVER ASSY |
| 4 | 143-2-851T-92600 | SPRING COIL |
| 5 | 143-2-712T-05301 | BRAKE SHOE |
| 6 | 143-0-741T-65800 | LEVER ASSY |
| 7 | 143-2-851T-91100 | SPRING COIL |
| 8 | 412 021 4903 | SPECIAL WASHER |
| 9 | 412 015 9600 | SPECIAL WASHER |
| 10 | 143-0-581T-15000 | GEAR ASSY |
| 11 | 412 012 7708 | SPECIAL WASHER |
| or | 412 015 8504 | SPECIAL WASHER |
| 12 | 143-0-741T-65600 | LEVER ASSY |
| 13 | 412 015 9501 | SPECIAL WASHER |
| 14 | 143-0-741T-65700 | LEVER ASSY |
| 15 | 143-0-741T-62921 | LEVER ASSY |
| 16 | 143-2-851T-87500 | SPRING COIL |
| 17 | 412 015 8504 | SPECIAL WASHER |
| 18 | 412 021 4903 | SPECIAL WASHER 0.6T |
| 19 | 412 021 6105 | SPECIAL WASHER |
| 20 | 143-0-731T-16300 | SLIDE ASSY |
| 21 | 143-2-681T-19800 | SLEEVE |
| 22 | 143-0-731T-16400 | SLIDE ASSY |
| 23 | 412 023 1801 | WASHER F 3.2X10X0.5 |
| 24 | 143-2-851T-87400 | SPRING COIL |
| 25 | 4-231V-87400 | SPECIAL SWITCH |
| 26 | 411 036 2805 | SCR PAN+SW+W 2.6X6 |
| 27 | 411 024 4101 | SCR S-TPG PAN+FLG 2.6X6 |
| 28 | 143-0-581T-14300 | GEAR ASSY |
| 29 | 143-2-581T-16100 | GEAR |
| 30 | 143-2-741T-63600 | LEVER |
| 32 | 143-2-564T-05001 | BELT REEL DRIVE |

| Ref No. | Part No. | Description |
|---|---|---|
| 33 | 4-527V-54300 | BRUSHLESS MOTOR |
| 34 | 411 023 4003 | SCR S-TPG PAN 3X10 |
| 35 | 143-2-210T-09600 | BRACKET |
| 36 | 143-0-233V-26750 | MC2 ASSY |
| 37 | 143-0-731T-16600 | SLIDE ASSY |
| 38 | 143-2-581T-16000 | GEAR |
| 39 | 143-2-581T-14600 | GEAR |
| 40 | 143-2-581T-14500 | GEAR |
| 41 | 143-2-564T-04900 | BELT TAPE LOADING |
| 42 | 143-0-581T-14400 | GEAR ASSY |
| 43 | 412 012 7708 | SPECIAL WASHER |
| 44 | 143-2-681T-19900 | SLEEVE |
| 45 | 411 045 6702 | SCR PAN+SW 3X8 |
| 46 | 143-0-351T-77200 | BRACKET MTG ASSY |
| 47 | 411 024 4309 | SCR S-TPG PAN+FLG 2.6X8 |
| 48 | 143-2-351T-79600 | BRACKET MTG |
| 49 | 143-0-581T-16300 | GEAR ASSY |
| 50 | 412 012 8309 | SPECIAL WASHER |
| 51 | 143-2-581T-14700 | GEAR |
| 52 | 411 023 9800 | SCR S-TPG PAN 3X8 |
| 53 | 143-0-233V-26621 | MC1 ASSY |
| 54 | 411 047 6809 | SCR PAN+FLG 3X4 |
| 56 | 143-0-581T-14001 | GEAR ASSY |
| 57 | 143-0-741T-62800 | LEVER ASSY |
| 58 | 143-2-851T-87300 | SPRING COIL |
| 60 | 143-0-581T-13801 | GEAR ASSY |
| 61 | 143-2-324T-01000 | EARTH PLATE |
| 73 | 143-2-310T-09300 | BRACKET |
| 75 | 411 102 9905 | WASHER Y 3.2X8X1 |



## ELECTRICAL PARTS

NOTE:

* Materials of Capacitors are abbreviated as follows;

| | |
|---|---|
| ALUMINUM ..... | Aluminum Electrolytic Capacitor |
| BC CON ..... | Barrier Layer Ceramic Capacitor |
| CERAMIC ..... | Ceramic Capacitor |
| EDL ..... | Electric Double Layer Capacitor |
| ELECT ..... | Electrolytic Capacitor |
| MYLAR ..... | Mylar Film Capacitor |
| NON POLARIZED ..... | Non Polarized Electrolytic Capacitor |
| POLYPRO ..... | Polypropylene Capacitor |

* Tolerance of Capacitor, Resistors and Other parts are noted with follow symboles;

| | |
|---|---|
| A ..... +75-10% | M ..... ±20% |
| F ..... ±1% | N ..... ±30% |
| G ..... ±2% | P ..... +100-0% |
| J ..... ±5% | Z ..... +80-20% |
| K ..... ±10% | |

**VD-1 BOARD (VIDEO)**
**NO.143-0-233V-51202**

| Location | Part No. | Description |
|---|---|---|
| | 143-2-464T-07700 | FIXER,VD-1 BOARD |
| | 143-2-377T-21800 | TERMINAL BOARD |
| | 143-2-143T-81810 | PLATE,JACKS |
| | 143-2-143T-81900 | PLATE,RF CONVERTER |
| | | **(COMPOSITE)** |
| B1201 | 405 018 2501 | TR 2SC3399 |
| or | 405 001 0408 | TR RN1204 |
| | | **(CAPACITORS)** |
| C1001 | 403 039 3507 | ELECT 470MF M 6.3V |
| C1002 | 403 042 2405 | ELECT 100MF M 16V |
| C1003 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1004 | 403 024 1501 | CERAMIC 39PF J 50V |
| C1005 | 403 043 9106 | ELECT 47MF M 16V |
| C1006 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1007 | 403 024 1501 | CERAMIC 39PF J 50V |
| C1008 | 403 038 6202 | ELECT 22MF M 6.3V |
| C1034 | 403 042 2405 | ELECT 100MF M 16V |
| C1035 | 403 041 2109 | ELECT 47MF M 10V |
| C1036 | 403 041 2109 | ELECT 47MF M 10V |
| C1037 | 403 001 2903 | CERAMIC 0.1MF M 16V |
| C1038 | 403 041 8804 | ELECT 10MF M 16V |
| C1040 | 403 041 8804 | ELECT 10MF M 16V |
| C1041 | 403 049 0008 | ELECT 1MF M 50V |
| C1042 | 403 049 0008 | ELECT 1MF M 50V |
| C1051 | 403 042 2405 | ELECT 100MF M 16V |
| C1052 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1101 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1102 | 403 070 7809 | CERAMIC 150PF K 50V |
| C1103 | 403 028 3402 | CERAMIC 56PF J 50V |
| C1104 | 403 075 4506 | CERAMIC 820PF K 50V |
| C1105 | 403 047 0604 | ELECT 4.7MF M 25V |
| C1106 | 403 039 2609 | ELECT 47MF M 6.3V |
| C1107 | 403 046 9905 | ELECT 4.7MF M 25V |
| C1108 | 403 051 1307 | ELECT 4.7MF M 50V |
| C1109 | 403 071 6207 | CERAMIC 220PF K 50V |
| C1110 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1111 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1112 | 403 001 8004 | CERAMIC 0.047MF M 16V |
| C1113 | 403 068 9402 | CERAMIC 100PF K 50V |
| C1114 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1115 | 403 049 9803 | ELECT 2.2MF M 50V |
| C1119 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1120 | 403 001 6505 | CERAMIC 3300PF K 16V |
| C1121 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1122 | 403 070 7809 | CERAMIC 150PF K 50V |
| C1123 | 403 050 6600 | ELECT 3.3MF M 50V |
| C1124 | 403 050 7003 | ELECT 3.3MF M 50V |
| C1125 | 403 039 2104 | ELECT 47MF M 6.3V |
| C1126 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1127 | 403 046 9905 | ELECT 4.7MF M 25V |
| C1128 | 403 070 7809 | CERAMIC 150PF K 50V |
| C1129 | 403 071 2001 | CERAMIC 180PF K 50V |

| Location | Part No. | Description |
|---|---|---|
| C1130 | 403 046 9905 | ELECT 4.7MF M 25V |
| C1131 | 403 048 6308 | ELECT 0.47MF M 50V |
| C1132 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1133 | 403 073 2702 | CERAMIC 390PF J 50V |
| C1134 | 403 073 7004 | CERAMIC 470PF K 50V |
| C1135 | 403 072 4707 | CERAMIC 270PF K 50V |
| C1136 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1137 | 403 014 2600 | CERAMIC 18PF J 50V |
| C1140 | 403 046 9905 | ELECT 4.7MF M 25V |
| C1141 | 403 026 2209 | CERAMIC 47PF J 50V |
| C1142 | 403 073 7004 | CERAMIC 470PF K 50V |
| C1143 | 403 046 9905 | ELECT 4.7MF M 25V |
| C1144 | 403 073 3204 | CERAMIC 390PF K 50V |
| C1145 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1146 | 403 022 7703 | CERAMIC 33PF J 50V |
| C1153 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1154 | 403 039 2104 | ELECT 47MF M 6.3V |
| C1155 | 403 038 9708 | ELECT 330MF M 6.3V |
| C1157 | 403 068 9402 | CERAMIC 100PF K 50V |
| C1161 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1162 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1163 | 403 041 2109 | ELECT 47MF M 10V |
| C1166 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1167 | 403 014 2600 | CERAMIC 18PF J 50V |
| C1168 | 403 010 7807 | CERAMIC 12PF J 50V |
| C1174 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1175 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1176 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1177 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1178 | 403 039 2104 | ELECT 47MF M 6.3V |
| C1179 | 403 069 1207 | CERAMIC 1000PF K 50V |
| C1180 | 403 001 8004 | CERAMIC 0.047MF M 16V |
| C1181 | 403 001 7403 | CERAMIC 4700PF K 16V |
| C1182 | 403 026 2209 | CERAMIC 47PF J 50V |
| C1183 | 403 028 3402 | CERAMIC 56PF J 50V |
| C1201 | 403 026 0700 | CERAMIC 47PF J 50V |
| C1202 | 403 049 0008 | ELECT 1MF M 50V |
| C1203 | 403 001 7007 | CERAMIC 3900PF K 16V |
| C1204 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1205 | 403 049 0008 | ELECT 1MF M 50V |
| C1206 | 403 059 6007 | POLYESTER 0.022MF K 50V |
| C1207 | 403 023 9607 | CERAMIC 39PF J 50V |
| C1208 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1209 | 403 027 9405 | CERAMIC 51PF J 50V |
| C1210 | 403 017 4304 | CERAMIC 200PF J 50V |
| C1211 | 403 049 0008 | ELECT 1MF M 50V |
| C1213 | 403 068 9402 | CERAMIC 100PF K 50V |
| C1214 | 403 049 0008 | ELECT 1MF M 50V |
| C1215 | 403 022 2005 | CERAMIC 30PF J 50V |
| C1216 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1218 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1223 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1224 | 403 049 0008 | ELECT 1MF M 50V |
| C1231 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1232 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1234 | 403 071 6207 | CERAMIC 220PF K 50V |
| C1235 | 403 075 3400 | CERAMIC 82PF K 50V |

| Location | Part No. | Description |
|---|---|---|
| C1235 | 403 033 4203 | CERAMIC 82PF J 50V |
| C1237 | 403 070 4105 | CERAMIC 120PF K 50V |
| C1239 | 403 072 7500 | CERAMIC 330PF J 50V |
| C1241 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1242 | 403 039 2104 | ELECT 47MF M 6.3V |
| C1243 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1244 | 403 039 2104 | ELECT 47MF M 6.3V |
| C1245 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1252 | 403 003 3304 | CERAMIC 0.022MF M 25V |
| C1253 | 403 049 0008 | ELECT 1MF M 50V |
| C1254 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1256 | 403 121 9509 | CERAMIC 0.1MF Z 50V |
| C1257 | 403 121 9509 | CERAMIC 0.1MF Z 50V |
| C1260 | 403 041 8804 | ELECT 10MF M 16V |
| C1261 | 403 038 6202 | ELECT 22MF M 6.3V |
| C1262 | 403 046 9905 | ELECT 4.7MF M 25V |
| C1263 | 403 041 8804 | ELECT 10MF M 16V |
| C1264 | 403 043 9106 | ELECT 47MF M 16V |
| C1301 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1302 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1303 | 403 043 9106 | ELECT 47MF M 16V |
| C1304 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C1305 | 403 068 9402 | CERAMIC 100PF K 50V |
| C1306 | 403 046 1602 | ELECT 3.3MF M 25V |
| C1307 | 403 046 1602 | ELECT 3.3MF M 25V |
| C1308 | 403 046 9905 | ELECT 4.7MF M 25V |
| C1309 | 403 042 2405 | ELECT 100MF M 16V |
| | | **(DIODES)** |
| D1001 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D1002 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D1031 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D1032 | 407 070 8408 | ZENER DIODE GZS9.1Y-TB |
| or | 407 051 8106 | ZENER DIODE GZS9.1Z |
| or | 407 053 8807 | ZENER DIODE MTZ9.1B-T-77 |
| or | 407 053 8906 | ZENER DIODE MTZ9.1C-T-77 |
| D1102 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D1104 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D1105 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D1111 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D1201 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D1202 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D1203 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| | | **(INTEGRATED CIRCUITS)** |
| IC1001 | 409 114 4407 | IC LA7223 |
| IC1101 | 409 111 9603 | IC AN3230K |
| IC1111 | 409 112 1606 | IC MN3811 |
| IC1201 | 409 074 5803 | IC TA8632N |
| IC1301 | 409 074 3502 | IC LA7311 |
| | | **(COILS)** |
| L1001 | 4-253V-97125 | HF CHOKE 100UH K |
| L1002 | 4-253V-97125 | HF CHOKE 100UH K |
| L1003 | 4-253V-97125 | HF CHOKE 100UH K |
| L1101 | 4-253V-97125 | HF CHOKE 100UH K |
| L1102 | 4-253V-97125 | HF CHOKE 100UH K |
| L1104 | 4-253V-97123 | HF CHOKE 68UH K |
| L1105 | 4-253V-97124 | HF CHOKE 82UH K |
| L1106 | 4-253V-97125 | HF CHOKE 100UH K |
| L1107 | 4-253V-97126 | HF CHOKE 120UH K |
| L1108 | 4-253V-97128 | HF CHOKE 180UH K |
| L1109 | 4-253V-74323 | HF CHOKE 18UH K |
| L1110 | 4-253V-85915 | HF CHOKE 15UH K |

| Location | Part No. | Description |
|---|---|---|
| L1121 | 4-253V-97125 | HF CHOKE 100UH K |
| L1122 | 4-253V-74327 | HF CHOKE 39UH K |
| L1202 | 4-253V-97116 | HF CHOKE 18UH K |
| L1205 | 4-253V-97115 | HF CHOKE 15UH K |
| L1209 | 4-253V-97118 | HF CHOKE 27UH K |
| L1210 | 4-253V-97133 | HF CHOKE 470UH K |
| L1211 | 4-253V-97125 | HF CHOKE 100UH K |
| L1242 | 4-253V-74328 | HF CHOKE 47UH K |
| L1260 | 4-253V-78530 | HF CHOKE 33MH K |
| L1261 | 4-253V-97125 | HF CHOKE 100UH K |
| | | **(TRANSISTORS)** |
| Q1001 | 405 004 4601 | TR 2SA608-F-SPA |
| Q1002 | 405 019 2005 | TR 2SC536-E-SPA |
| or | 405 019 2807 | TR 2SC536-F-SPA |
| or | 405 011 8401 | TR 2SC1740S-Q |
| or | 405 011 8500 | TR 2SC1740S-R |
| Q1003 | 405 004 4007 | TR 2SA608-E-SPA |
| or | 405 004 4601 | TR 2SA608-F-SPA |
| Q1021 | 405 004 4007 | TR 2SA608-E-SPA |
| or | 405 004 4601 | TR 2SA608-F-SPA |
| Q1105 | 405 006 7204 | TR 2SA984K-F |
| Q1122 | 405 004 4007 | TR 2SA608-E-SPA |
| or | 405 004 4601 | TR 2SA608-F-SPA |
| Q1202 | 405 004 4007 | TR 2SA608-E-SPA |
| or | 405 004 4601 | TR 2SA608-F-SPA |
| Q1203 | 405 016 0905 | TR 2SC2839-E-SPA |
| or | 405 015 2504 | TR 2SC2669-O |
| Q1204 | 405 019 2005 | TR 2SC536-E-SPA |
| or | 405 019 2807 | TR 2SC536-F-SPA |
| or | 405 011 8401 | TR 2SC1740S-Q |
| or | 405 011 8500 | TR 2SC1740S-R |
| Q1205 | 405 019 2005 | TR 2SC536-E-SPA |
| or | 405 019 2807 | TR 2SC536-F-SPA |
| or | 405 011 8401 | TR 2SC1740S-Q |
| or | 405 011 8500 | TR 2SC1740S-R |
| Q1206 | 405 019 2005 | TR 2SC536-E-SPA |
| or | 405 019 2807 | TR 2SC536-F-SPA |
| or | 405 011 8401 | TR 2SC1740S-Q |
| or | 405 011 8500 | TR 2SC1740S-R |
| Q1207 | 405 004 4007 | TR 2SA608-E-SPA |
| or | 405 004 4601 | TR 2SA608-F-SPA |
| Q1208 | 405 019 2005 | TR 2SC536-E-SPA |
| or | 405 019 2807 | TR 2SC536-F-SPA |
| or | 405 011 8401 | TR 2SC1740S-Q |
| or | 405 011 8500 | TR 2SC1740S-R |
| | | **(RESISTORS)** |
| R1001 | 401 022 0700 | CARBON 68 JA 1/4W |
| R1002 | 401 021 1807 | CARBON 560 JA 1/4W |
| R1003 | 401 021 2903 | CARBON 5.6K JA 1/4W |
| R1004 | 401 015 2605 | CARBON 1.8K JA 1/4W |
| R1005 | 401 013 5202 | CARBON 1.2K JA 1/4W |
| R1006 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1007 | 401 023 1607 | CARBON 820 JA 1/4W |
| R1008 | 401 015 2605 | CARBON 1.8K JA 1/4W |
| R1009 | 401 021 1807 | CARBON 560 JA 1/4W |
| R1010 | 401 022 6702 | CARBON 75 JA 1/4W |
| R1031 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1032 | 401 016 4707 | CARBON 22K JA 1/4W |
| R1035 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1041 | 401 012 8006 | CARBON 100K JA 1/4W |
| R1042 | 401 022 7600 | CARBON 7.5K JA 1/4W |
| R1043 | 401 017 1705 | CARBON 2.7K JA 1/4W |
| R1044 | 401 017 1705 | CARBON 2.7K JA 1/4W |
| R1045 | 401 012 8006 | CARBON 100K JA 1/4W |
| R1046 | 401 017 2702 | CARBON 27K JA 1/4W |
| R1047 | 401 014 5102 | CARBON 15K JA 1/4W |
| R1048 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R1106 | 401 016 4707 | CARBON 22K JA 1/4W |
| R1107 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1108 | 401 021 4907 | CARBON 560K JA 1/4W |
| R1109 | 401 012 6903 | CARBON 10K JA 1/4W |
| R1110 | 401 015 2605 | CARBON 1.8K JA 1/4W |

| Location | Part No. | Description |
|---|---|---|
| R1111 | 401 020 2805 | CARBON 47K JA 1/4W |
| R1112 | 401 017 0708 | CARBON 270 JA 1/4W |
| R1113 | 401 016 3700 | CARBON 2.2K JA 1/4W |
| R1114 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1115 | 401 014 4006 | CARBON 1.5K JA 1/4W |
| R1116 | 401 012 6903 | CARBON 10K JA 1/4W |
| R1118 | 401 023 6909 | CARBON 910 JA 1/4W |
| R1120 | 401 015 2605 | CARBON 1.8K JA 1/4W |
| R1121 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1123 | 401 022 3008 | CARBON 6.8K JA 1/4W |
| R1124 | 401 022 1806 | CARBON 680 JA 1/4W |
| R1125 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1129 | 401 017 1705 | CARBON 2.7K JA 1/4W |
| R1130 | 401 013 5202 | CARBON 1.2K JA 1/4W |
| R1136 | 401 014 8509 | CARBON 1.6K JA 1/4W |
| R1137 | 401 021 2903 | CARBON 5.6K JA 1/4W |
| R1138 | 401 018 2701 | CARBON 330 JA 1/4W |
| R1139 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1142 | 401 018 3708 | CARBON 3.3K JA 1/4W |
| R1144 | 401 015 2605 | CARBON 1.8K JA 1/4W |
| R1145 | 401 016 2505 | CARBON 220 JA 1/4W |
| R1147 | 401 015 2605 | CARBON 1.8K JA 1/4W |
| R1148 | 401 020 0702 | CARBON 470 JA 1/4W |
| R1150 | 401 022 7600 | CARBON 7.5K JA 1/4W |
| R1153 | 401 020 0801 | CARBON 470 JA 1/4W |
| R1154 | 401 018 3708 | CARBON 3.3K JA 1/4W |
| R1162 | 401 016 3700 | CARBON 2.2K JA 1/4W |
| R1163 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1171 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R1172 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1173 | 401 016 6404 | CARBON 2.2M JA 1/4W |
| R1201 | 401 014 4006 | CARBON 1.5K JA 1/4W |
| R1202 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1203 | 401 015 2605 | CARBON 1.8K JA 1/4W |
| R1204 | 401 013 4106 | CARBON 120 JA 1/4W |
| R1205 | 401 012 5708 | CARBON 1K JA 1/4W |
| R1206 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R1207 | 401 019 1802 | CARBON 3.9K JA 1/4W |
| R1208 | 401 015 9406 | CARBON 2K JA 1/4W |
| R1209 | 401 016 4707 | CARBON 22K JA 1/4W |
| R1210 | 401 016 4707 | CARBON 22K JA 1/4W |
| R1212 | 401 012 6903 | CARBON 10K JA 1/4W |
| R1213 | 401 018 4804 | CARBON 33K JA 1/4W |
| R1214 | 401 018 0202 | CARBON 300K JA 1/4W |
| R1215 | 401 018 5702 | CARBON 330K JA 1/4W |
| R1216 | 401 017 9206 | CARBON 3K JA 1/4W |
| R1217 | 401 017 9206 | CARBON 3K JA 1/4W |
| R1218 | 401 021 1807 | CARBON 560 JA 1/4W |
| R1222 | 401 021 2903 | CARBON 5.6K JA 1/4W |
| R1223 | 401 016 4707 | CARBON 22K JA 1/4W |
| R1224 | 401 023 1607 | CARBON 820 JA 1/4W |
| R1226 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R1227 | 401 015 2605 | CARBON 1.8K JA 1/4W |
| R1228 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1229 | 401 022 1806 | CARBON 680 JA 1/4W |
| R1231 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1234 | 401 020 0702 | CARBON 470 JA 1/4W |
| R1235 | 401 014 4006 | CARBON 1.5K JA 1/4W |
| R1238 | 401 018 4903 | CARBON 33K JA 1/4W |
| R1240 | 401 023 2703 | CARBON 8.2K JA 1/4W |
| R1241 | 401 013 5202 | CARBON 1.2K JA 1/4W |
| R1242 | 401 023 1607 | CARBON 820 JA 1/4W |
| R1243 | 401 020 0702 | CARBON 470 JA 1/4W |
| R1244 | 401 020 0702 | CARBON 470 JA 1/4W |
| R1245 | 401 014 2804 | CARBON 150 JA 1/4W |
| R1247 | 401 020 0702 | CARBON 470 JA 1/4W |
| R1248 | 401 013 6308 | CARBON 12K JA 1/4W |
| R1250 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R1251 | 401 014 4006 | CARBON 1.5K JA 1/4W |
| R1252 | 401 022 1806 | CARBON 680 JA 1/4W |
| R1253 | 401 023 4509 | CARBON 820K JA 1/4W |
| R1254 | 401 023 1607 | CARBON 820 JA 1/4W |
| R1255 | 401 018 2701 | CARBON 330 JA 1/4W |
| R1256 | 401 020 0702 | CARBON 470 JA 1/4W |

| Location | Part No. | Description |
|---|---|---|
| R1257 | 401 022 1806 | CARBON 680 JA 1/4W |
| R1301 | 401 105 3701 | CARBON 18K JA 1/4W |
| R1302 | 401 016 7906 | CARBON 2.4K JA 1/4W |
| R1303 | 401 012 5609 | CARBON 1K JA 1/4W |
| R1304 | 401 012 6903 | CARBON 10K JA 1/4W |
| R1305 | 401 012 7009 | CARBON 10K JA 1/4W |
| R1308 | 401 023 1607 | CARBON 820 JA 1/4W |
| R1309 | 401 105 3701 | CARBON 18K JA 1/4W |
| R1310 | 401 012 9201 | CARBON 1M JA 1/4W |
| R1311 | 401 012 9201 | CARBON 1M JA 1/4W |
| | | **(SEMI VARIABLE RESISTORS)** |
| SVR1001 | 4-222V-69102 | SEMI VR 500 OHM |
| SVR1002 | 4-222V-69108 | SEMI VR 20K OHM |
| or | 4-222V-68914 | SEMI VR 22K OHM |
| SVR1003 | 4-222V-69107 | SEMI VR 10K OHM |
| or | 4-222V-68912 | SEMI VR 10K OHM |
| SVR1004 | 4-222V-69107 | SEMI VR 10K OHM |
| or | 4-222V-68912 | SEMI VR 10K OHM |
| SVR1005 | 4-222V-69108 | SEMI VR 20K OHM |
| or | 4-222V-68914 | SEMI VR 22K OHM |
| SVR1006 | 4-222V-69108 | SEMI VR 20K OHM |
| or | 4-222V-68914 | SEMI VR 22K OHM |
| SVR1007 | 4-222V-69108 | SEMI VR 20K OHM |
| or | 4-222V-68914 | SEMI VR 22K OHM |
| SVR1121 | 4-222V-68910 | SEMI VR 4.7K OHM |
| or | 4-222V-69106 | SEMI VR 5K OHM |
| SVR1201 | 4-222V-69111 | SEMI VR 100K OHM |
| or | 4-222V-68918 | SEMI VR 100K OHM |
| SVR1202 | 4-222V-69104 | SEMI VR 2K OHM |
| or | 4-222V-68908 | SEMI VR 2.2K OHM |
| | | **(MISCELLANEOUS)** |
| DL1201 | 4-284V-19400 | DELAY LINE |
| F1101 | 4-953V-30100 | FILTER |
| F1201 | 4-228V-21100 | LC PACK |
| HIC1001 | 143-0-208V-02750 | HIC1001 BOARD ASSEMBLY |
| X1201 | 4-225V-18400 | CRYSTAL 4.433619MHZ |
| or | 4-225V-19000 | CRYSTAL 4.433619MHZ |

**VD-1 BOARD (AUDIO)**
**NO.143-0-233V-51202**

| Location | Part No. | Description |
|---|---|---|
| | | **(CAPACITORS)** |
| C2001 | 403 043 9106 | ELECT 47MF M 16V |
| C2002 | 403 043 9106 | ELECT 47MF M 16V |
| C2003 | 403 049 0008 | ELECT 1MF M 50V |
| C2004 | 403 075 4506 | CERAMIC 820PF K 50V |
| C2005 | 403 003 0600 | CERAMIC 0.018MF K 25V |
| C2006 | 403 048 6308 | ELECT 0.47MF M 50V |
| C2007 | 403 001 7007 | CERAMIC 3900PF K 16V |
| C2008 | 403 001 6505 | CERAMIC 3300PF K 16V |
| C2009 | 403 041 2109 | ELECT 47MF M 10V |
| C2010 | 403 041 8804 | ELECT 10MF M 16V |
| C2011 | 403 041 2109 | ELECT 47MF M 10V |
| C2012 | 403 049 0008 | ELECT 1MF M 50V |
| C2013 | 403 003 0600 | CERAMIC 0.018MF K 25V |
| C2014 | 403 049 0008 | ELECT 1MF M 50V |
| C2015 | 403 046 9905 | ELECT 4.7MF M 25V |
| C2016 | 403 041 8804 | ELECT 10MF M 16V |
| C2020 | 403 042 2405 | ELECT 100MF M 16V |
| C2021 | 403 003 4806 | CERAMIC 0.027MF K 25V |
| C2022 | 403 001 7403 | CERAMIC 4700PF K 16V |
| C2023 | 403 001 6505 | CERAMIC 3300PF K 16V |
| C2024 | 403 001 6505 | CERAMIC 3300PF K 16V |
| C2025 | 403 071 6207 | CERAMIC 220PF K 50V |
| C2026 | 403 081 5207 | POLYPRO 0.027MF J 100V |
| C2051 | 403 069 1207 | CERAMIC 1000PF K 50V |
| C2052 | 403 001 4006 | CERAMIC 1500PF M 16V |

| Location | Part No. | Description |
|---|---|---|
| C2053 | 403 068 9402 | CERAMIC 100PF K 50V |
| C2054 | 403 068 9402 | CERAMIC 100PF K 50V |
| C2055 | 403 070 7809 | CERAMIC 150PF K 50V |
| C2071 | 403 040 1707 | ELECT 22MF M 10V |
| C2072 | 403 049 0008 | ELECT 1MF M 50V |
| C2073 | 403 039 2104 | ELECT 47MF M 6.3V |
| | | (DIODES) |
| D2001 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D2002 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D2071 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D2072 | 407 050 4802 | ZENER DIODE GZA5.1Y |
| D2073 | 407 050 4802 | ZENER DIODE GZA5.1Y |
| D2075 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D2076 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| | | (INTEGRATED CIRCUIT) |
| IC2001 | 409 018 9706 | IC LA7096 |
| | | (COILS) |
| L2001 | 4-253V-95801 | HF CHOKE 27MH |
| L2002 | 4-253V-76249 | HF CHOKE 10MH J |
| L2003 | 4-253V-76233 | HF CHOKE 560UH K |
| L2051 | 4-471V-11500 | CORE |
| L2052 | 4-471V-11500 | CORE |
| L2053 | 4-253V-97628 | HF CHOKE 560UH K |
| L2071 | 4-253V-74308 | HF CHOKE 1.0UH M |
| | | (TRANSISTORS) |
| Q2001 | 405 019 3804 | TR 2SC536-G-NP |
| or | 405 019 2708 | TR 2SC536-F-NP |
| Q2002 | 405 019 3804 | TR 2SC536-G-NP |
| or | 405 019 2708 | TR 2SC536-F-NP |
| Q2071 | 405 009 7003 | TR 2SB985-T |
| Q2072 | 405 006 6702 | TR 2SA984-F |
| Q2073 | 405 019 3804 | TR 2SC536-G-NP |
| or | 405 019 2708 | TR 2SC536-F-NP |
| Q2074 | 405 023 5009 | TR 2SD400-E-MP |
| or | 405 023 5306 | TR 2SD400-F-MP |
| Q2075 | 405 006 6702 | TR 2SA984-F |
| Q2076 | 405 006 6702 | TR 2SA984-F |
| or | 405 006 6504 | TR 2SA984-E |
| Q2077 | 405 006 6702 | TR 2SA984-F |
| or | 405 006 6504 | TR 2SA984-E |
| Q2078 | 405 019 1909 | TR 2SC536-E-NP |
| or | 405 019 2708 | TR 2SC536-F-NP |
| | | (RESISTORS) |
| R2001 | 401 022 3008 | CARBON 6.8K JA 1/4W |
| R2002 | 401 012 4404 | CARBON 100 JA 1/4W |
| R2003 | 401 016 5704 | CARBON 220K JA 1/4W |
| R2004 | 401 021 8905 | CARBON 6.2K JA 1/4W |
| R2005 | 401 017 1705 | CARBON 2.7K JA 1/4W |
| R2006 | 401 016 4707 | CARBON 22K JA 1/4W |
| R2007 | 401 018 3708 | CARBON 3.3K JA 1/4W |
| R2008 | 401 022 7105 | CARBON 750 JA 1/4W |
| R2009 | 401 013 5202 | CARBON 1.2K JA 1/4W |
| R2010 | 401 013 5202 | CARBON 1.2K JA 1/4W |
| R2011 | 401 023 1607 | CARBON 820 JA 1/4W |
| R2012 | 401 016 6404 | CARBON 2.2M JA 1/4W |
| R2013 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R2014 | 401 023 1607 | CARBON 820 JA 1/4W |
| R2015 | 401 017 1705 | CARBON 2.7K JA 1/4W |
| R2016 | 401 105 3701 | CARBON 18K JA 1/4W |
| R2017 | 401 012 6903 | CARBON 10K JA 1/4W |
| R2018 | 401 012 6903 | CARBON 10K JA 1/4W |
| R2020 | 401 012 4404 | CARBON 100 JA 1/4W |
| R2021 | 401 019 2908 | CARBON 39K JA 1/4W |
| R2025 | 401 017 7509 | CARBON 3.9 JA 1/4W |

| Location | Part No. | Description |
|---|---|---|
| R2026 | 401 018 4804 | CARBON 33K JA 1/4W |
| R2027 | 401 018 4804 | CARBON 33K JA 1/4W |
| R2071 | 401 022 3008 | CARBON 6.8K JA 1/4W |
| R2072 | 401 021 1807 | CARBON 560 JA 1/4W |
| R2073 | 401 016 2505 | CARBON 220 JA 1/4W |
| R2074 | 401 015 2605 | CARBON 1.8K JA 1/4W |
| R2075 | 401 012 6903 | CARBON 10K JA 1/4W |
| R2076 | 401 012 6903 | CARBON 10K JA 1/4W |
| R2077 | 401 018 7508 | CARBON 360 JA 1/4W |
| R2078 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R2079 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R2080 | 401 017 1705 | CARBON 2.7K JA 1/4W |
| R2081 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R2083 | 401 017 1705 | CARBON 2.7K JA 1/4W |
| R2084 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R2086 | 401 012 6903 | CARBON 10K JA 1/4W |
| R2087 | 401 022 4005 | CARBON 68K JA 1/4W |
| R2088 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R2089 | 401 016 4707 | CARBON 22K JA 1/4W |
| R2091 | 401 015 0502 | CARBON 18 JA 1/4W |
| R2092 | 401 015 0502 | CARBON 18 JA 1/4W |
| R2093 | 401 015 0502 | CARBON 18 JA 1/4W |
| R2094 | 401 015 0502 | CARBON 18 JA 1/4W |
| | | (SEMI VARIABLE RESISTORS) |
| SVR2001 | 4-222V-68918 | SEMI VR 100K OHM |
| or | 4-222V-69011 | SEMI VR 100K OHM |
| or | 4-222V-69111 | SEMI VR 100K OHM |
| SVR2002 | 4-222V-68912 | SEMI VR 10K OHM |
| or | 4-222V-69007 | SEMI VR 10K OHM |
| or | 4-222V-69107 | SEMI VR 10K OHM |
| | | (TRANSFORMER) |
| T2001 | 4-258V-18600 | OSC COIL |
| | | (MISCELLANEOUS) |
| F2051 | 4-953V-26113 | FILTER |
| F2052 | 4-953V-26111 | FILTER |
| F2071 | 4-234V-18309 | FUSE 315MA 250V |

**VD-1 BOARD (TUNER)**
**NO.143-0-233V-51202**

| Location | Part No. | Description |
|---|---|---|
| | | (CAPACITORS) |
| C6080 | 403 046 9905 | ELECT 4.7MF M 25V |
| C6081 | 403 067 5603 | MT-COMPO 0.1MF J 50V |
| or | 403 065 8002 | MT-POLYEST 0.1MF J 63V |
| C6082 | 403 049 0008 | ELECT 1MF M 50V |
| C6083 | 403 046 9905 | ELECT 4.7MF M 25V |
| C6084 | 403 048 6308 | ELECT 0.47MF M 50V |
| C6085 | 403 038 1603 | ELECT 100MF M 6.3V |
| C6086 | 403 115 1007 | MT-POLYEST 0.33MF J 63V |
| or | 403 067 7300 | MT-COMPO 0.33MF J 50V |
| C6087 | 403 121 9509 | CERAMIC 0.1MF Z 50V |
| | | (DIODES) |
| D6082 | 407 051 6706 | ZENER DIODE GZS5.1Y |
| or | 407 051 6805 | ZENER DIODE GZS5.1Z-BT |
| or | 407 053 6308 | ZENER DIODE MTZ5.1B-T-77 |
| or | 407 053 6407 | ZENER DIODE MTZ5.1C |
| D6083 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| | | (COIL) |
| L6084 | 4-253V-74308 | HF CHOKE 1.0UH M |
| | | (RESISTORS) |
| R6080 | 401 012 5609 | CARBON 1K JA 1/4W |
| R6084 | 401 017 8506 | CARBON 300 JA 1/4W |

| Location | Part No. | Description |
|---|---|---|
| R6085 | 401 020 0702 | CARBON 470 JA 1/4W |
| R6087 | 401 012 8006 | CARBON 100K JA 1/4W |
| R6091 | 401 017 0708 | CARBON 270 JA 1/4W |

**HIC1001 BOARD (VIDEO)**
**NO.143-0-208V-02750**

| Location | Part No. | Description |
|---|---|---|
| | | **(CAPACITORS)** |
| C1901 | 403 074 3104 | CERAMIC 0.047MF Z 50V |
| C1902 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1903 | 403 068 0409 | CERAMIC 0.1MF Z 25V |
| C1904 | 403 074 3104 | CERAMIC 0.047MF Z 50V |
| C1905 | 403 114 3101 | CERAMIC 1MF Z 16V |
| C1906 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1907 | 403 114 3101 | CERAMIC 1MF Z 16V |
| C1908 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| | | **(DIODES)** |
| D1901 | 407 003 3609 | DIODE DAN202K-T-96 |
| D1902 | 407 003 4507 | DIODE DAP202K-T-96 |
| D1903 | 407 003 4507 | DIODE DAP202K-T-96 |
| | | **(TRANSISTORS)** |
| Q1901 | 405 014 4509 | TR 2SC2412K-T96-R |
| Q1902 | 405 014 4509 | TR 2SC2412K-T96-R |
| Q1903 | 405 014 4509 | TR 2SC2412K-T96-R |
| Q1904 | 405 014 4509 | TR 2SC2412K-T96-R |
| Q1905 | 405 002 0308 | TR 2SA1037K-T96-R |
| or | 405 003 1809 | TR 2SA1252-D4-TB |
| Q1906 | 405 002 0308 | TR 2SA1037K-T96-R |
| or | 405 003 1809 | TR 2SA1252-D4-TB |
| Q1907 | 405 014 4509 | TR 2SC2412K-T96-R |
| Q1908 | 405 014 4509 | TR 2SC2412K-T96-R |
| Q1909 | 405 014 4509 | TR 2SC2412K-T96-R |
| | | **(RESISTORS)** |
| R1901 | 401 038 6307 | MT-GLAZE 470 JA 1/10W |
| R1902 | 401 038 0701 | MT-GLAZE 2.2K JA 1/10W |
| R1903 | 401 037 8609 | MT-GLAZE 1.6K JA 1/10W |
| R1904 | 401 037 9309 | MT-GLAZE 18K JA 1/10W |
| R1905 | 401 038 6505 | MT-GLAZE 47K JA 1/10W |
| R1906 | 401 037 8005 | MT-GLAZE 15K JA 1/10W |
| R1907 | 401 038 0701 | MT-GLAZE 2.2K JA 1/10W |
| R1908 | 401 038 3603 | MT-GLAZE 3.3K JA 1/10W |
| R1909 | 401 037 6704 | MT-GLAZE 1.2K JA 1/10W |
| R1910 | 401 038 6307 | MT-GLAZE 470 JA 1/10W |
| R1911 | 401 038 3603 | MT-GLAZE 3.3K JA 1/10W |
| R1912 | 401 037 9309 | MT-GLAZE 18K JA 1/10W |
| R1913 | 401 038 9704 | MT-GLAZE 7.5K JA 1/10W |
| R1914 | 401 037 6704 | MT-GLAZE 1.2K JA 1/10W |
| R1915 | 401 037 5400 | MT-GLAZE 1K JA 1/10W |
| R1916 | 401 038 6307 | MT-GLAZE 470 JA 1/10W |
| R1917 | 401 037 5707 | MT-GLAZE 100K JA 1/10W |
| R1918 | 401 038 6604 | MT-GLAZE 470K JA 1/10W |
| R1919 | 401 037 5608 | MT-GLAZE 10K JA 1/10W |
| R1920 | 401 037 6803 | MT-GLAZE 12K JA 1/10W |
| R1921 | 401 038 6505 | MT-GLAZE 47K JA 1/10W |
| R1922 | 401 038 0800 | MT-GLAZE 22K JA 1/10W |
| R1923 | 401 038 7601 | MT-GLAZE 560 JA 1/10W |
| R1924 | 401 039 0403 | MT-GLAZE 8.2K JA 1/10W |
| R1925 | 401 037 5004 | MT-GLAZE 0.000 ZA 1/10W |

**VP-1 BOARD (VIDEO PRE-AMP)**
**NO.143-0-233V-43801**

| Location | Part No. | Description |
|---|---|---|
| | | **(CAPACITORS)** |
| C1602 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1603 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1604 | 403 043 9700 | ELECT 47MF M 16V |
| C1605 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1606 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1607 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1609 | 403 069 1702 | CERAMIC 1000PF K 50V |
| C1610 | 403 114 3101 | CERAMIC 1MF Z 16V |
| C1611 | 403 114 3101 | CERAMIC 1MF Z 16V |
| C1612 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1613 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1614 | 403 020 0508 | CERAMIC 27PF J 50V |
| C1615 | 403 018 0602 | CERAMIC 22PF J 50V |
| C1616 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1617 | 403 068 0409 | CERAMIC 0.1MF Z 25V |
| C1618 | 403 039 3101 | ELECT 47MF M 6.3V |
| C1621 | 403 134 7400 | CERAMIC 1MF Z 16V |
| C1622 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1623 | 403 018 0602 | CERAMIC 22PF J 50V |
| C1624 | 403 069 1702 | CERAMIC 1000PF K 50V |
| C1632 | 403 069 5601 | CERAMIC 0.01MF K 50V |
| C1641 | 403 027 1201 | CERAMIC 5PF C 50V |
| C1642 | 403 018 7502 | CERAMIC 220PF J 50V |
| C1643 | 403 014 3508 | CERAMIC 18PF J 50V |
| C1644 | 403 022 8304 | CERAMIC 33PF J 50V |
| C1645 | 403 114 3101 | CERAMIC 1MF Z 16V |
| | | **(INTEGRATED CIRCUIT)** |
| IC1601 | 409 118 8401 | IC AN3330K |
| | | **(COILS)** |
| L1602 | 4-253V-76132 | HF CHOKE 100UH J |
| L1603 | 4-253V-76132 | HF CHOKE 100UH J |
| L1641 | 4-253V-76125 | HF CHOKE 27UH J |
| L1642 | 4-253V-75016 | HF CHOKE 4.7UH K |
| L1643 | 4-253V-76123 | HF CHOKE 18UH J |
| | | **(TRANSISTORS)** |
| Q1640 | 405 015 9701 | TR 2SC2814-F4-TB |
| Q1641 | 405 015 9701 | TR 2SC2814-F4-TB |
| | | **(RESISTORS)** |
| R1601 | 401 038 7601 | MT-GLAZE 560 JA 1/10W |
| R1603 | 401 037 7909 | MT-GLAZE 1.5K JA 1/10W |
| R1605 | 401 038 7601 | MT-GLAZE 560 JA 1/10W |
| R1606 | 401 038 7601 | MT-GLAZE 560 JA 1/10W |
| R1607 | 401 038 7601 | MT-GLAZE 560 JA 1/10W |
| R1608 | 401 036 7207 | MT-GLAZE 4.7 JA 1/8W |
| R1609 | 401 035 4900 | MT-GLAZE 1K JA 1/8W |
| R1612 | 401 037 7701 | MT-GLAZE 15 JA 1/10W |
| R1613 | 401 037 7701 | MT-GLAZE 15 JA 1/10W |
| R1621 | 401 038 7601 | MT-GLAZE 560 JA 1/10W |
| R1641 | 401 038 6406 | MT-GLAZE 4.7K JA 1/10W |
| R1642 | 401 038 6307 | MT-GLAZE 470 JA 1/10W |
| R1643 | 401 038 7601 | MT-GLAZE 560 JA 1/10W |
| R1644 | 401 037 5004 | MT-GLAZE 0.000 ZA 1/10W |
| R1645 | 401 037 7909 | MT-GLAZE 1.5K JA 1/10W |
| R1646 | 401 038 0701 | MT-GLAZE 2.2K JA 1/10W |
| R1651 | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W |
| R1652 | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W |
| R1653 | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W |
| R1654 | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W |
| R1655 | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W |
| R1656 | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W |
| R1657 | 401 037 5004 | MT-GLAZE 0.000 ZA 1/10W |
| R1658 | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W |
| R1659 | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W |
| R1660 | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W |

SY-1 BOARD (SYSTEM CONTROL)
NO.143-0-233V-53600

| Location | Part No. | Description |
|---|---|---|
| | 143-2-464T-07700 | FIXER,SY-1 BOARD |
| | | **(COMPOSITE)** |
| B3001 | 405 018 2501 | TR 2SC3399 |
| B3002 | 405 018 2501 | TR 2SC3399 |
| | | **(CAPACITORS)** |
| C3001 | 403 022 2005 | CERAMIC 30PF J 50V |
| C3002 | 403 022 2005 | CERAMIC 30PF J 50V |
| C3003 | 403 048 6308 | ELECT 0.47MF M 50V |
| C3004 | 403 022 2005 | CERAMIC 30PF J 50V |
| C3006 | 403 038 1603 | ELECT 100MF M 6.3V |
| C3007 | 403 001 3108 | CERAMIC 0.1MF Z 16V |
| C3008 | 403 068 8801 | CERAMIC 100PF J 50V |
| C3009 | 403 068 8801 | CERAMIC 100PF J 50V |
| C3011 | 403 049 9803 | ELECT 2.2MF M 50V |
| C3012 | 403 085 7405 | NP-ELECT 10MF M 25V |
| C3013 | 403 002 2506 | CERAMIC 0.01MF M 25V |
| C3014 | 403 001 3108 | CERAMIC 0.1MF Z 16V |
| C3015 | 403 001 3108 | CERAMIC 0.1MF Z 16V |
| C3016 | 403 001 3108 | CERAMIC 0.1MF Z 16V |
| C3017 | 403 047 0604 | ELECT 4.7MF M 25V |
| C3018 | 403 001 3108 | CERAMIC 0.1MF Z 16V |
| C3019 | 403 001 3108 | CERAMIC 0.1MF Z 16V |
| C3020 | 403 022 0902 | CERAMIC 30PF J 50V |
| C3021 | 403 022 0902 | CERAMIC 30PF J 50V |
| C3022 | 403 001 3108 | CERAMIC 0.1MF Z 16V |
| C3023 | 403 068 8801 | CERAMIC 100PF J 50V |
| C3024 | 403 001 3108 | CERAMIC 0.1MF Z 16V |
| C3025 | 403 001 3108 | CERAMIC 0.1MF Z 16V |
| C3026 | 403 038 1603 | ELECT 100MF M 6.3V |
| C3027 | 403 069 0705 | CERAMIC 1000PF K 50V |
| C3028 | 403 071 6207 | CERAMIC 220PF K 50V |
| C3029 | 403 071 6207 | CERAMIC 220PF K 50V |
| | | **(DIODES)** |
| D3002 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D3003 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D3004 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D3011 | 407 050 3805 | ZENER DIODE GZA4.7Z |
| or | 407 059 0706 | ZENER DIODE 05Z4.7Z |
| D3012 | 407 050 6202 | ZENER DIODE GZA6.2Y |
| or | 407 059 1802 | ZENER DIODE 05Z6.2Y |
| D3013 | 407 050 7902 | ZENER DIODE GZA9.1Z |
| | | **(INTEGRATED CIRCUITS)** |
| IC3001 | 410 030 7502 | IC HD404418SM20 |
| or | 410 030 7601 | IC HD4074418S20 |
| IC3002 | 410 028 3301 | IC TMS70C20-28C71022 |
| IC3003 | 409 114 4803 | IC LB1641 |
| or | 409 111 9405 | IC BA6209N |
| IC3004 | 409 018 3902 | IC LA6393D |
| or | 409 057 3406 | IC UPC393C |
| | | **(TRANSISTORS)** |
| Q3001 | 405 019 2005 | TR 2SC536-E-SPA |
| or | 405 019 2807 | TR 2SC536-F-SPA |
| Q3002 | 405 019 2807 | TR 2SC536-F-SPA |
| Q3003 | 405 019 2005 | TR 2SC536-E-SPA |
| or | 405 019 2807 | TR 2SC536-F-SPA |
| Q3004 | 405 019 2005 | TR 2SC536-E-SPA |
| or | 405 019 2807 | TR 2SC536-F-SPA |
| Q3005 | 405 006 6504 | TR 2SA984-E |
| or | 405 006 7006 | TR 2SA984K-E |
| | | **(RESISTORS)** |
| R3001 | 401 012 9201 | CARBON 1M JA 1/4W |
| R3002 | 401 012 6903 | CARBON 10K JA 1/4W |

| Location | Part No. | Description |
|---|---|---|
| R3003 | 401 012 4404 | CARBON 100 JA 1/4W |
| R3004 | 401 018 5702 | CARBON 330K JA 1/4W |
| R3005 | 401 014 6000 | CARBON 150K JA 1/4W |
| R3006 | 401 022 7105 | CARBON 750 JA 1/4W |
| R3007 | 401 019 8603 | CARBON 430K JA 1/4W |
| R3008 | 401 019 2908 | CARBON 39K JA 1/4W |
| R3009 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3010 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3011 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3012 | 401 020 2805 | CARBON 47K JA 1/4W |
| R3013 | 401 017 2702 | CARBON 27K JA 1/4W |
| R3014 | 401 016 4707 | CARBON 22K JA 1/4W |
| R3015 | 401 022 4005 | CARBON 68K JA 1/4W |
| R3016 | 401 021 2903 | CARBON 5.6K JA 1/4W |
| R3017 | 401 020 2805 | CARBON 47K JA 1/4W |
| R3018 | 401 017 2702 | CARBON 27K JA 1/4W |
| R3019 | 401 016 4707 | CARBON 22K JA 1/4W |
| R3020 | 401 022 4005 | CARBON 68K JA 1/4W |
| R3021 | 401 021 2903 | CARBON 5.6K JA 1/4W |
| R3022 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3023 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3024 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3025 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3026 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3027 | 401 012 5708 | CARBON 1K JA 1/4W |
| R3028 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3029 | 401 016 3700 | CARBON 2.2K JA 1/4W |
| R3030 | 401 016 4707 | CARBON 22K JA 1/4W |
| R3031 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3032 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3033 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3034 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3035 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3036 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3037 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3038 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3039 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3040 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3041 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3043 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3044 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3045 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3046 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3047 | 401 018 4804 | CARBON 33K JA 1/4W |
| R3048 | 401 018 4804 | CARBON 33K JA 1/4W |
| R3049 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3050 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3051 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3052 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3053 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3054 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3055 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3056 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3057 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3059 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3060 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3061 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3062 | 401 012 5708 | CARBON 1K JA 1/4W |
| R3063 | 401 012 5708 | CARBON 1K JA 1/4W |
| R3064 | 401 012 5708 | CARBON 1K JA 1/4W |
| R3065 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3066 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3070 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3071 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3072 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3073 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3074 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3075 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3076 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3077 | 401 012 5708 | CARBON 1K JA 1/4W |
| R3078 | 401 018 4804 | CARBON 33K JA 1/4W |
| R3079 | 401 018 4804 | CARBON 33K JA 1/4W |
| R3080 | 401 020 2904 | CARBON 47K JA 1/4W |
| R3081 | 401 018 4903 | CARBON 33K JA 1/4W |

| Location | Part No. | Description |
|---|---|---|
| R3083 | 401 017 9701 | CARBON 30K JA 1/4W |
| R3084 | 401 017 9701 | CARBON 30K JA 1/4W |
| R3085 | 401 022 3008 | CARBON 6.8K JA 1/4W |
| R3086 | 401 013 7206 | CARBON 120K JA 1/4W |
| R3087 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3088 | 401 014 4006 | CARBON 1.5K JA 1/4W |
| R3089 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3090 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3091 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3092 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3093 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3094 | 401 012 5609 | CARBON 1K JA 1/4W |
| R3095 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3104 | 401 022 3008 | CARBON 6.8K JA 1/4W |
| R3105 | 401 016 4707 | CARBON 22K JA 1/4W |
| R3107 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3108 | 401 019 1802 | CARBON 3.9K JA 1/4W |
| R3110 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3111 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3112 | 401 012 9201 | CARBON 1M JA 1/4W |
| R3114 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3115 | 401 012 6903 | CARBON 10K JA 1/4W |
| R3151 | 402 034 7602 | FUSIBLE RES 3.3 JA 1/2W |
| or | 402 036 3404 | FUSIBLE RES 3.3 JA 1/2W |
| | | **(MISCELLANEOUS)** |
| X3001 | 4-266V-02900 | CERAMIC RESONATOR 8MHZ |
| or | 4-266V-03200 | CERAMIC RESONATOR 8MHZ |
| X3002 | 4-266V-02800 | CERAMIC RESONATOR 5MHZ |
| or | 4-266V-03100 | CERAMIC RESONATOR 5MHZ |

**SY-1 BOARD (SERVO)**
**NO.143-0-233V-53600**

| Location | Part No. | Description |
|---|---|---|
| | | **(COMPOSITE)** |
| B4001 | 405 063 9708 | TR DTC144EL-TL2 |
| B4002 | 405 018 2501 | TR 2SC3399 |
| or | 405 001 0408 | TR RN1204 |
| or | 405 000 6104 | TR DTC144ES |
| B4003 | 405 018 2501 | TR 2SC3399 |
| or | 405 001 0408 | TR RN1204 |
| or | 405 000 6104 | TR DTC144ES |
| B4004 | 405 003 7603 | TR 2SA1345 |
| B4005 | 405 018 2501 | TR 2SC3399 |
| or | 405 001 0408 | TR RN1204 |
| or | 405 000 6104 | TR DTC144ES |
| | | **(CAPACITORS)** |
| C4001 | 403 001 7403 | CERAMIC 4700PF K 16V |
| C4002 | 403 001 7403 | CERAMIC 4700PF K 16V |
| C4003 | 403 044 8504 | ELECT 10MF M 25V |
| C4004 | 403 062 6506 | POLYESTER 0.056MF J 50V |
| C4005 | 403 050 0509 | ELECT 2.2MF M 50V |
| C4006 | 403 001 1609 | CERAMIC 0.01MF K 16V |
| C4007 | 403 044 7002 | ELECT 10MF M 25V |
| C4008 | 403 001 1609 | CERAMIC 0.01MF K 16V |
| C4009 | 403 001 7403 | CERAMIC 4700PF K 16V |
| C4010 | 403 001 8806 | CERAMIC 6800PF K 16V |
| C4011 | 403 058 9504 | POLYESTER 0.018MF J 50V |
| C4012 | 403 058 9504 | POLYESTER 0.018MF J 50V |
| C4013 | 403 058 9504 | POLYESTER 0.018MF J 50V |
| C4014 | 403 071 6207 | CERAMIC 220PF K 50V |
| C4015 | 403 062 6506 | POLYESTER 0.056MF J 50V |
| C4016 | 403 049 0800 | ELECT 1MF M 50V |
| C4017 | 403 049 0800 | ELECT 1MF M 50V |
| C4018 | 403 068 9402 | CERAMIC 100PF K 50V |
| C4019 | 403 043 9601 | ELECT 47MF M 16V |
| C4020 | 403 063 1302 | POLYESTER 0.068MF J 50V |
| C4021 | 403 058 9504 | POLYESTER 0.018MF J 50V |

| Location | Part No. | Description |
|---|---|---|
| C4022 | 403 068 9402 | CERAMIC 100PF K 50V |
| C4023 | 403 049 0800 | ELECT 1MF M 50V |
| C4024 | 403 001 1609 | CERAMIC 0.01MF K 16V |
| C4025 | 403 001 1609 | CERAMIC 0.01MF K 16V |
| C4026 | 403 001 1609 | CERAMIC 0.01MF K 16V |
| C4027 | 403 069 1207 | CERAMIC 1000PF K 50V |
| C4028 | 403 062 4502 | POLYESTER 5600PF J 50V |
| C4029 | 403 004 0500 | CERAMIC 0.047MF K 25V |
| C4030 | 403 060 7802 | POLYESTER 0.033MF J 50V |
| C4031 | 403 085 4305 | NP-ELECT 10MF M 16V |
| C4032 | 403 003 3700 | CERAMIC 0.022MF Z 25V |
| C4033 | 403 038 2006 | ELECT 100MF M 6.3V |
| or | 403 038 2006 | ELECT 100MF M 6.3V |
| C4034 | 403 001 6505 | CERAMIC 3300PF K 16V |
| or | 403 072 9405 | CERAMIC 3300PF K 50V |
| C4035 | 403 041 9405 | ELECT 10MF M 16V |
| C4036 | 403 001 7403 | CERAMIC 4700PF K 16V |
| C4037 | 403 061 9706 | POLYESTER 0.047MF J 50V |
| C4038 | 403 001 1609 | CERAMIC 0.01MF K 16V |
| C4039 | 403 001 1609 | CERAMIC 0.01MF K 16V |
| C4040 | 403 085 9102 | NP-ELECT 3.3MF M 25V |
| C4041 | 403 003 2802 | CERAMIC 0.022MF K 25V |
| C4042 | 403 049 0800 | ELECT 1MF M 50V |
| C4043 | 403 001 1609 | CERAMIC 0.01MF K 16V |
| C4044 | 403 068 9402 | CERAMIC 100PF K 50V |
| C4045 | 403 048 2508 | ELECT 0.22MF M 50V |
| C4046 | 403 039 2609 | ELECT 47MF M 6.3V |
| C4047 | 403 059 5505 | POLYESTER 0.022MF J 50V |
| C4048 | 403 039 2609 | ELECT 47MF M 6.3V |
| C4049 | 403 004 0500 | CERAMIC 0.047MF K 25V |
| C4050 | 403 042 0104 | ELECT 10MF M 16V |
| C4051 | 403 069 1207 | CERAMIC 1000PF K 50V |
| C4052 | 403 039 2609 | ELECT 47MF M 6.3V |
| C4053 | 403 057 2001 | POLYESTER 0.1MF J 50V |
| C4054 | 403 041 9405 | ELECT 10MF M 16V |
| C4055 | 403 003 2802 | CERAMIC 0.022MF K 25V |
| C4057 | 403 135 0509 | NP-ELECT 1MF M 50V |
| or | 403 086 3000 | NP-ELECT 1MF M 50V |
| or | 403 086 2904 | NP-ELECT 1MF M 50V |
| or | 403 086 2805 | NP-ELECT 1MF M 50V |
| | | **(DIODES)** |
| D4001 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4005 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4006 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4007 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4008 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4009 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4010 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4011 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4012 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4013 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4014 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4016 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4017 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4018 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4019 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| D4020 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |

| Location | Part No. | Description |
|---|---|---|
| | | **(INTEGRATED CIRCUITS)** |
| IC4001 | 409 125 8807 | IC LC7413-8034 |
| IC4002 | 409 114 4209 | IC LA7117 |
| IC4003 | 409 003 5508 | IC BA718 |
| IC4004 | 409 051 3006 | IC TC4053BP |
| IC4005 | 409 002 2904 | IC BA236 |
| | | **(TRANSISTORS)** |
| Q4002 | 405 019 2708 | TR 2SC536-F-NP |
| Q4005 | 405 038 0501 | TR 2SK404-E |
| Q4006 | 405 019 1909 | TR 2SC536-E-NP |
| or | 405 019 2708 | TR 2SC536-F-NP |
| Q4007 | 405 019 1909 | TR 2SC536-E-NP |
| or | 405 019 2708 | TR 2SC536-F-NP |
| Q4008 | 405 006 1103 | TR 2SA933-Q |
| or | 405 006 1202 | TR 2SA933-R |
| | | **(RESISTORS)** |
| R4001 | 401 016 3700 | CARBON 2.2K JA 1/4W |
| R4002 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4003 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4004 | 401 022 4005 | CARBON 68K JA 1/4W |
| R4005 | 401 022 4005 | CARBON 68K JA 1/4W |
| R4006 | 401 020 3802 | CARBON 470K JA 1/4W |
| R4007 | 401 018 5702 | CARBON 330K JA 1/4W |
| R4008 | 401 021 4006 | CARBON 56K JA 1/4W |
| R4009 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4010 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4011 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4012 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4013 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4014 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4015 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4016 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4017 | 401 014 6000 | CARBON 150K JA 1/4W |
| R4018 | 401 018 4804 | CARBON 33K JA 1/4W |
| R4019 | 401 020 3802 | CARBON 470K JA 1/4W |
| R4020 | 401 012 8006 | CARBON 100K JA 1/4W |
| R4021 | 401 012 8006 | CARBON 100K JA 1/4W |
| R4022 | 401 017 2702 | CARBON 27K JA 1/4W |
| R4023 | 401 017 2702 | CARBON 27K JA 1/4W |
| R4024 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4025 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4026 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4027 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4028 | 401 012 4404 | CARBON 100 JA 1/4W |
| R4029 | 401 012 5708 | CARBON 1K JA 1/4W |
| R4030 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4031 | 401 016 3809 | CARBON 2.2K JA 1/4W |
| R4032 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4033 | 401 021 4907 | CARBON 560K JA 1/4W |
| R4034 | 401 012 8006 | CARBON 100K JA 1/4W |
| R4035 | 401 012 8006 | CARBON 100K JA 1/4W |
| R4036 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4038 | 401 017 3709 | CARBON 270K JA 1/4W |
| R4039 | 401 014 6000 | CARBON 150K JA 1/4W |
| R4040 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4041 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4042 | 401 087 4101 | MT-FILM 4.7K FD 1/6W |
| R4043 | 401 087 4101 | MT-FILM 4.7K FD 1/6W |
| R4044 | 401 105 4708 | CARBON 180K JA 1/4W |
| R4045 | 401 021 4907 | CARBON 560K JA 1/4W |
| R4046 | 401 016 3700 | CARBON 2.2K JA 1/4W |
| R4047 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4048 | 401 016 5704 | CARBON 220K JA 1/4W |
| R4049 | 401 018 2701 | CARBON 330 JA 1/4W |
| R4050 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4051 | 401 012 5708 | CARBON 1K JA 1/4W |
| R4052 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4053 | 401 019 2908 | CARBON 39K JA 1/4W |
| R4054 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4055 | 401 023 7807 | CARBON 91K JA 1/4W |
| R4056 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4057 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4059 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4060 | 401 016 4707 | CARBON 22K JA 1/4W |
| R4061 | 401 012 8006 | CARBON 100K JA 1/4W |
| R4064 | 401 020 3802 | CARBON 470K JA 1/4W |
| R4065 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4066 | 401 018 4804 | CARBON 33K JA 1/4W |
| R4067 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R4068 | 401 018 3807 | CARBON 3.3K JA 1/4W |
| R4070 | 401 020 1907 | CARBON 4.7K JA 1/4W |
| R4071 | 401 014 5102 | CARBON 15K JA 1/4W |
| R4072 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4073 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4074 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4075 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4076 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4077 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4078 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4079 | 401 018 3708 | CARBON 3.3K JA 1/4W |
| R4080 | 401 016 4707 | CARBON 22K JA 1/4W |
| R4081 | 401 017 3709 | CARBON 270K JA 1/4W |
| R4082 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4083 | 401 016 8705 | CARBON 240K JA 1/4W |
| R4084 | 401 018 3708 | CARBON 3.3K JA 1/4W |
| R4086 | 401 016 8705 | CARBON 240K JA 1/4W |
| R4087 | 401 022 8508 | CARBON 750K JA 1/4W |
| R4088 | 401 018 0202 | CARBON 300K JA 1/4W |
| R4089 | 401 012 7009 | CARBON 10K JA 1/4W |
| R4090 | 401 018 5702 | CARBON 330K JA 1/4W |
| R4091 | 401 016 3700 | CARBON 2.2K JA 1/4W |
| R4092 | 401 016 4707 | CARBON 22K JA 1/4W |
| R4093 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4094 | 401 012 4404 | CARBON 100 JA 1/4W |
| R4095 | 401 012 5609 | CARBON 1K JA 1/4W |
| R4096 | 401 012 6903 | CARBON 10K JA 1/4W |
| or | 401 012 7009 | CARBON 10K JA 1/4W |
| R4097 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4098 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4099 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4100 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4101 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4102 | 401 012 9201 | CARBON 1M JA 1/4W |
| R4103 | 401 018 5702 | CARBON 330K JA 1/4W |
| R4108 | 401 012 9201 | CARBON 1M JA 1/4W |
| R4109 | 401 012 9201 | CARBON 1M JA 1/4W |
| R4112 | 401 012 6903 | CARBON 10K JA 1/4W |
| | | **(SEMI VARIABLE RESISTORS)** |
| SVR4001 | 4-222V-65621 | SEMI VR 220K OHM |
| or | 4-222V-68313 | SEMI VR 200K OHM |
| SVR4002 | 4-222V-65621 | SEMI VR 220K OHM |
| or | 4-222V-68313 | SEMI VR 200K OHM |
| SVR4003 | 4-222V-65621 | SEMI VR 220K OHM |
| or | 4-222V-68313 | SEMI VR 200K OHM |
| SVR4005 | 4-222V-65621 | SEMI VR 220K OHM |
| or | 4-222V-68313 | SEMI VR 200K OHM |
| SVR4006 | 4-222V-65621 | SEMI VR 220K OHM |
| or | 4-222V-68313 | SEMI VR 200K OHM |
| SVR4007 | 4-222V-65621 | SEMI VR 220K OHM |
| or | 4-222V-68313 | SEMI VR 200K OHM |
| | | **(VARIABLE RESISTOR)** |
| VR4004 | 4-222V-29600 | VR 100K OHM |

**SV-3 BOARD (SERVO)**
**NO.143-0-233V-62400**

| Location | Part No. | Description |
|---|---|---|
| | | **(COMPOSITE)** |
| B4301 | 405 018 2501 | TR 2SC3399 |
| or | 405 001 0408 | TR RN1204 |

| Location | Part No. | Description |
|---|---|---|
| B4301 | 405 000 6104 | TR DTC144ES |
| | | (CAPACITORS) |
| C4301 | 403 057 2001 | POLYESTER 0.1MF J 50V |
| C4302 | 403 057 2001 | POLYESTER 0.1MF J 50V |
| | | (DIODES) |
| D4301 | 407 012 4406 | DIODE 1SS133 |
| or | 407 007 9904 | DIODE GMA01 |
| | | (INTEGRATED CIRCUIT) |
| IC4301 | 409 002 2607 | IC BA226 |
| | | (RESISTORS) |
| R4301 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4302 | 401 012 6903 | CARBON 10K JA 1/4W |
| R4303 | 401 017 3709 | CARBON 270K JA 1/4W |
| R4304 | 401 017 3709 | CARBON 270K JA 1/4W |
| R4305 | 401 017 9701 | CARBON 30K JA 1/4W |

**PW-1 BOARD (POWER SUPPLY)**
**NO.143-0-233V-43594**

| Location | Part No. | Description |
|---|---|---|
| | 143-2-383T-03100 | FUSE HOLDER |
| | 143-2-368T-11300 | HEAT SINK |
| | | (CAPACITORS) |
| C5001 | 403 050 5504 | ELECT 2200MF M 50V |
| C5002 | 403 054 6002 | ELECT 100MF M 100V |
| C5003 | 403 054 9409 | ELECT 47MF M 100V |
| C5004 | 403 049 0008 | ELECT 1MF M 50V |
| C5005 | 403 039 6508 | ELECT 100MF M 10V |
| C5006 | 403 039 6508 | ELECT 100MF M 10V |
| C5007 | 403 049 0008 | ELECT 1MF M 50V |
| C5008 | 403 043 1902 | ELECT 2200MF M 16V |
| C5009 | 403 043 9106 | ELECT 47MF M 16V |
| C5011 | 403 049 0008 | ELECT 1MF M 50V |
| C5012 | 403 049 4204 | ELECT 10MF M 50V |
| C5014 | 403 057 2902 | POLYESTER 0.1MF K 50V |
| or | 403 057 3503 | POLYESTER 0.1MF K 50V |
| C5015 | 403 102 8408 | MT-POLYEST 0.1MF K 100V |
| or | 403 121 6706 | MT-POLYEST 0.1MF J 100V |
| C5101 | △404 031 1201 | MT-COMPO 4700PF M 250V |
| | | (DIODES) |
| D5001 | 407 081 2402 | DIODE DSA12TC-KC6 |
| D5002 | 407 081 2402 | DIODE DSA12TC-KC6 |
| D5003 | 407 081 2402 | DIODE DSA12TC-KC6 |
| D5004 | 407 081 2402 | DIODE DSA12TC-KC6 |
| D5005 | 407 004 9709 | DIODE DSK10C |
| or | 407 005 8701 | DIODE ERA15-02A |
| D5006 | 407 004 9709 | DIODE DSK10C |
| or | 407 005 8701 | DIODE ERA15-02A |
| D5007 | 407 004 9709 | DIODE DSK10C |
| or | 407 005 8701 | DIODE ERA15-02A |
| D5009 | 407 050 9104 | ZENER DIODE GZB16C |
| D5010 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4208 | DIODE 1SS131 |
| D5011 | 407 065 7904 | ZENER DIODE GZS12X |
| or | 407 053 3109 | ZENER DIODE MTZ12A |
| D5012 | 407 051 6003 | ZENER DIODE GZS33X |
| or | 407 078 1104 | ZENER DIODE MTZ33A |
| D5013 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4208 | DIODE 1SS131 |
| D5014 | 407 051 6706 | ZENER DIODE GZS5.1Y |
| or | 407 053 6407 | ZENER DIODE MTZ5.1C |
| D5015 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4208 | DIODE 1SS131 |

| Location | Part No. | Description |
|---|---|---|
| | | (INTEGRATED CIRCUIT) |
| IC5001 | 409 114 5206 | IC STK7226 |
| | | (COILS) |
| L5001 | 4-252V-12100 | LF CHOKE 200UH |
| or | 4-252V-12200 | LF CHOKE 200UH |
| or | 4-252V-13500 | LF CHOKE 185UH |
| L5002 | 4-471V-12200 | CORE |
| L5003 | 4-471V-12200 | CORE |
| L5101 | △ 4-953V-26200 | FILTER |
| | | (TRANSISTORS) |
| Q5002 | 405 006 7204 | TR 2SA984K-F |
| or | 405 006 7006 | TR 2SA984K-E |
| Q5003 | 405 007 5308 | TR 2SB560-F-MP |
| or | 405 007 5100 | TR 2SB560-E-MP |
| Q5004 | 405 043 6000 | TR 2SC3807 |
| Q5005 | 405 019 2708 | TR 2SC536-F-NP |
| or | 405 019 1909 | TR 2SC536-E-NP |
| | | (RESISTORS) |
| R5001 | △402 003 8906 | FUSIBLE RES 2.2 JA 1/2W |
| R5002 | 401 016 7906 | CARBON 2.4K JA 1/4W |
| R5003 | 401 016 7906 | CARBON 2.4K JA 1/4W |
| R5004 | 401 016 7906 | CARBON 2.4K JA 1/4W |
| R5005 | 401 014 5102 | CARBON 15K JA 1/4W |
| R5006 | 401 019 7705 | CARBON 4.3K JA 1/4W |
| R5007 | 401 019 7705 | CARBON 4.3K JA 1/4W |
| R5008 | △402 023 2106 | FUSIBLE RES 47 JA 1/4W |
| R5009 | 401 018 8307 | CARBON 36K JA 1/4W |
| R5010 | 401 014 2804 | CARBON 150 JA 1/4W |
| R5011 | 401 014 2804 | CARBON 150 JA 1/4W |
| R5012 | 401 012 6903 | CARBON 10K JA 1/4W |
| R5013 | 401 018 7904 | CARBON 3.6K JA 1/4W |
| R5014 | 401 014 8509 | CARBON 1.6K JA 1/4W |
| R5015 | 401 014 4006 | CARBON 1.5K JA 1/4W |
| R5016 | 401 012 6903 | CARBON 10K JA 1/4W |
| R5017 | 401 012 6903 | CARBON 10K JA 1/4W |
| R5018 | 401 023 2703 | CARBON 8.2K JA 1/4W |
| | | (MISCELLANEOUS) |
| F5001 | △ 4-234V-18313 | FUSE 800MA 250V |
| F5101 | △ 4-234V-17606 | FUSE 400MA |

**TN-1 BOARD (TUNER IF)**
**NO.143-0-233V-36222**

| Location | Part No. | Description |
|---|---|---|
| | | (CAPACITORS) |
| C6009 | 403 049 1005 | ELECT 1MF M 50V |
| C6012 | 403 053 9707 | ELECT 4.7MF M 35V |
| C6014 | 403 047 9201 | ELECT 0.1MF M 50V |
| C6016 | 403 043 9700 | ELECT 47MF M 16V |
| C6024 | 403 041 9603 | ELECT 10MF M 16V |
| C6025 | 403 053 9707 | ELECT 4.7MF M 35V |
| C6026 | 403 058 2406 | POLYESTER 0.015MF J 50V |
| | | (DIODE) |
| D6001 | 407 012 4406 | DIODE 1SS133 |
| | | (INTEGRATED CIRCUIT) |
| IC6001 | 409 019 3307 | IC LA7530N |
| | | (COILS) |
| L6001 | 4-253V-78600 | HF CHOKE 3.9UH |
| L6002 | 4-253V-78700 | HF CHOKE 1.2UH |
| L6003 | 4-253V-74421 | HF CHOKE 15UH |
| L6004 | 4-253V-74426 | HF CHOKE 33UH |

| Location | Part No. | Description |
|---|---|---|
| | | (TRANSISTOR) |
| Q6004 | 405 011 8302 | TR 2SC1740S.E |
| | | (RESISTOR) |
| R6022 | 402 004 1203 | FUSIBLE RES 22JA 1/4W |
| | | (TRANSFORMERS) |
| T6001 | 4-256V-35000 | IFT |
| T6002 | 4-256V-35100 | IFT |
| T6003 | 4-256V-35200 | IFT |
| | | (VARIABLE RESISTOR) |
| VR6001 | 4-222V-68912 | 10K OHM |
| | | (MISCELLANEOUS) |
| F6001 | 4-953V-32000 | FILTER |
| F6002 | 4-953V-23900 | FILTER |
| F6003 | 4-953V-08800 | FILTER |
| F6004 | 4-953V-02600 | FILTER |

TN-2 BOARD (TUNING CONTROL)
NO.143-0-233V-49221

| Location | Part No. | Description |
|---|---|---|
| | 401 037 5004 | MT-GLAZE 0.000 ZA 1/10W, J6101-6112 |
| | 401 035 4108 | MT-GLAZE 0.000 ZA 1/8W,J6113-6134 |
| | | (COMPOSITE) |
| B6101 | 4-958V-00700 | R-PACK 10 OHMX9 |
| | | (CAPACITORS) |
| C6102 | 403 041 9405 | ELECT 10MF M 16V |
| C6103 | 403 041 9405 | ELECT 10MF M 16V |
| C6104 | 403 048 4809 | ELECT 0.33MF M 50V |
| C6106 | 403 049 4808 | ELECT 10MF M 50V |
| C6107 | 403 038 6707 | ELECT 220MF M 6.3V |
| C6108 | 403 050 3302 | ELECT 22MF M 50V |
| C6109 | 403 050 0509 | ELECT 2.2MF M 50V |
| C6110 | 403 009 5708 | CERAMIC 100PF J 50V |
| C6111 | 403 009 5708 | CERAMIC 100PF J 50V |
| C6112 | 403 069 1702 | CERAMIC 1000PF K 50V |
| C6113 | 403 071 6504 | CERAMIC 220PF K 50V |
| C6115 | 403 069 0705 | CERAMIC 1000PF K 50V |
| C6116 | 403 069 1702 | CERAMIC 1000PF K 50V |
| C6117 | 403 069 1702 | CERAMIC 1000PF K 50V |
| C6118 | 403 018 0503 | CERAMIC 22PF J 50V |
| C6119 | 403 018 0503 | CERAMIC 22PF J 50V |
| C6120 | 403 067 6501 | MT-COMPO 0.18MF J 50V |
| C6121 | 403 073 1200 | CERAMIC 0.033MF K 50V |
| C6122 | 403 069 9500 | CERAMIC 0.01MF Z 50V |
| C6125 | 403 069 9500 | CERAMIC 0.01MF Z 50V |
| C6126 | 403 069 9500 | CERAMIC 0.01MF Z 50V |
| C6127 | 403 069 9500 | CERAMIC 0.01MF Z 50V |
| C6128 | 403 069 9500 | CERAMIC 0.01MF Z 50V |
| C6129 | 403 069 1207 | CERAMIC 1000PF K 50V |
| | | (DIODES) |
| D6101 | 407 004 8009 | DIODE DSB015-TB |
| D6102 | 407 004 8009 | DIODE DSB015-TB |
| | | (INTEGRATED CIRCUITS) |
| IC6101 | 410 028 7804 | IC TMP47C231AN4973 |
| IC6102 | 409 119 0602 | IC M58655P |
| IC6103 | 409 114 4308 | IC LA7214 |
| IC6104 | 409 119 2408 | IC TD6358N |
| IC6105 | 409 057 5103 | IC UPC574J |
| or | 409 026 8203 | IC L5631 |

| Location | Part No. | Description |
|---|---|---|
| | | (COILS) |
| L6101 | 4-253V-74320 | HF CHOKE 10UH K |
| L6102 | 4-253V-74320 | HF CHOKE 10UH K |
| | | (TRANSISTORS) |
| Q6101 | 405 068 0007 | TR 2SA1362-GR-TE85L |
| Q6102 | 405 065 5708 | TR FMS1-T98 |
| Q6103 | 405 065 5708 | TR FMS1-T98 |
| Q6105 | 405 044 6009 | TR 2SC3361-S5-TB |
| | | (RESISTORS) |
| R6101 | 401 037 5608 | MT-GLAZE 10K JA 1/10W |
| R6102 | 401 035 4900 | MT-GLAZE 1K JA 1/8W |
| R6103 | 401 038 6406 | MT-GLAZE 4.7K JA 1/10W |
| R6104 | 401 037 5608 | MT-GLAZE 10K JA 1/10W |
| R6105 | 401 037 5608 | MT-GLAZE 10K JA 1/10W |
| R6106 | 401 037 5608 | MT-GLAZE 10K JA 1/10W |
| R6107 | 401 037 5608 | MT-GLAZE 10K JA 1/10W |
| R6108 | 401 037 5608 | MT-GLAZE 10K JA 1/10W |
| R6109 | 401 037 5608 | MT-GLAZE 10K JA 1/10W |
| R6110 | 401 038 3504 | MT-GLAZE 330 JA 1/10W |
| R6111 | 401 038 3801 | MT-GLAZE 330K JA 1/10W |
| R6112 | 401 038 2309 | MT-GLAZE 270K JA 1/10W |
| R6113 | 401 037 6209 | MT-GLAZE 11K JA 1/10W |
| R6114 | 401 037 8005 | MT-GLAZE 15K JA 1/10W |
| R6115 | 401 038 6505 | MT-GLAZE 47K JA 1/10W |
| R6116 | 401 038 6505 | MT-GLAZE 47K JA 1/10W |
| R6117 | 401 038 6505 | MT-GLAZE 47K JA 1/10W |
| R6118 | 401 038 6505 | MT-GLAZE 47K JA 1/10W |
| R6122 | 401 038 6604 | MT-GLAZE 470K JA 1/10W |
| R6123 | 401 038 5409 | MT-GLAZE 390K JA 1/10W |
| R6124 | 401 035 4900 | MT-GLAZE 1K JA 1/8W |
| R6125 | 401 037 5608 | MT-GLAZE 10K JA 1/10W |
| | | (MISCELLANEOUS) |
| X6101 | 4-266V-01100 | CERAMIC RESONATOR 4MHZ |
| X6102 | 4-225V-26900 | CRYSTAL 3200KHZ |

TM-4 BOARD (DISPLAY & TIMER)
NO.143-0-233V-49422

| Location | Part No. | Description |
|---|---|---|
| | 143-2-386T-03900 | BRACKET,DIGITAL DISPLAY |
| | | (COMPOSITE) |
| B7401 | 4-956V-10304 | R-PACK 10K OHMX4 K |
| B7402 | 4-956V-10304 | R-PACK 10K OHMX4 K |
| | | (CAPACITORS) |
| C7401 | 403 121 9509 | CERAMIC 0.1MF Z 50V |
| C7402 | 403 016 7603 | CERAMIC 2.7PF C 50V |
| C7403 | 403 017 9705 | CERAMIC 22PF J 50V |
| C7404 | 403 017 9705 | CERAMIC 22PF J 50V |
| C7405 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C7406 | 403 068 9402 | CERAMIC 100PF K 50V |
| C7407 | 403 068 9402 | CERAMIC 100PF K 50V |
| C7408 | 403 068 9402 | CERAMIC 100PF K 50V |
| C7409 | 403 068 9402 | CERAMIC 100PF K 50V |
| C7410 | 403 068 9402 | CERAMIC 100PF K 50V |
| C7411 | 403 068 9402 | CERAMIC 100PF K 50V |
| C7412 | 403 121 9509 | CERAMIC 0.1MF Z 50V |
| C7413 | 403 001 1906 | CERAMIC 0.01MF M 16V |
| C7414 | 403 069 1207 | CERAMIC 1000PF K 50V |
| C7415 | 403 048 7107 | ELECT 0.47MF M 50V |
| C7416 | 403 046 4009 | ELECT 33MF M 25V |
| C7417 | 403 046 4009 | ELECT 33MF M 25V |
| C7418 | 403 049 5003 | ELECT 10MF M 50V |
| C7419 | 403 037 8504 | DL-ELECT 0.047F Z 5.5V |
| or | 403 037 8603 | DL-ELECT 0.047F Z 5.5V |

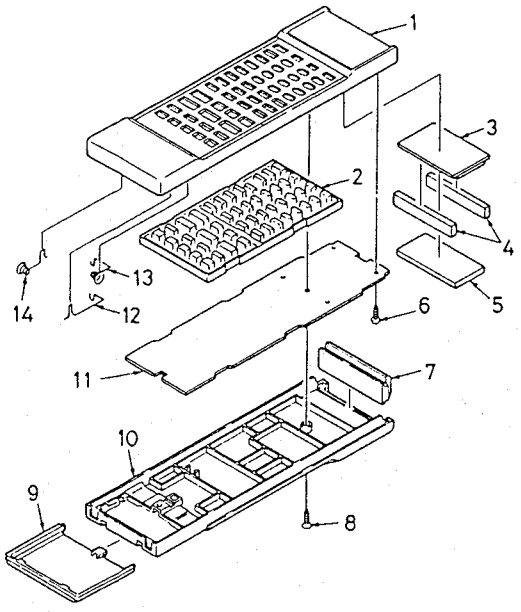
| Location | Part No. | Description |
|---|---|---|
| | | **(DIODES)** |
| D7401 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7402 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7403 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7404 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7405 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7406 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7407 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7408 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7409 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7411 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7412 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7413 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7414 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7415 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7416 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7417 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7418 | 407 005 1603 | DIODE DS135 D |
| D7419 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| D7420 | 407 007 9904 | DIODE GMA01 |
| or | 407 012 4406 | DIODE 1SS133 |
| | | **(INTEGRATED CIRCUITS)** |
| IC7401 | 409 128 3700 | IC M50955-698SP |
| IC7402 | 409 032 3308 | IC MN1280-L |
| | | **(COIL)** |
| L7401 | 4-253V-74314 | HF CHOKE 3.3UH K |
| | | **(RESISTORS)** |
| R7401 | 401 012 9201 | CARBON 1M JA 1/4W |
| R7402 | 401 012 9904 | CARBON 10M JA 1/4W |
| R7403 | 401 018 5702 | CARBON 330K JA 1/4W |
| R7404 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7405 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7406 | 401 012 6903 | CARBON 10K JA 1/4W |
| R7407 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7408 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7409 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7410 | 401 012 6903 | CARBON 10K JA 1/4W |
| R7411 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7412 | 401 012 6903 | CARBON 10K JA 1/4W |
| R7413 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7414 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7415 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7416 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7417 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7418 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7419 | 401 019 2908 | CARBON 39K JA 1/4W |
| R7420 | 401 012 6903 | CARBON 10K JA 1/4W |
| R7421 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7422 | 401 012 6903 | CARBON 10K JA 1/4W |
| R7424 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7425 | 401 018 4804 | CARBON 33K JA 1/4W |
| R7426 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7427 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7428 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7429 | 401 012 5609 | CARBON 1K JA 1/4W |
| R7430 | 401 012 4404 | CARBON 100 JA 1/4W |
| R7431 | 401 017 8506 | CARBON 300 JA 1/4W |
| | | **(MISCELLANEOUS)** |
| A7401 | 4-985V-06000 | DIGITAL DISPLAY |
| A7402 | 4-193V-00200 | REMOTE CONTROL RECEIVER |
| CT7401 | 4-224V-12700 | TRIMMER |
| X7401 | 4-225V-23900 | CRYSTAL 4.19MHZ |
| or | 4-225V-24100 | CRYSTAL 4 19MHZ |
| X7402 | 4-225V-23100 | CRYSTAL 32KHZ |
| or | 4-225V-24200 | CRYSTAL 32KHZ |
| or | 4-225V-26100 | CRYSTAL 32KHZ |

**TM-5 BOARD (SWITCH & VR)**
**NO.143-0-233V-49521**

| Location | Part No. | Description |
|---|---|---|
| | | **(SWITCHES)** |
| S7001 | 4-231V-72200 | PUSH SWITCH |
| or | 4-231V-73000 | PUSH SWITCH |
| S7002 | 4-231V-72200 | PUSH SWITCH |
| or | 4-231V-73000 | PUSH SWITCH |
| | | **(VARIABLE RESISTORS)** |
| VR7001 | 4-222V-33700 | VR 500K OHM |
| VR7002 | 4-222V-32200 | VR 5K OHM |
| VR7003 | 4-222V-33700 | VR 500K OHM |

## REMOTE CONTROL UNIT
NO. 143-9-4100-68901

| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | 143-0-111T-10701 | CASE, TOP |
| 2 | 143-2-161T-86501 | PUSH BUTTON |
| 3 | 4-970V-00600 | LCD |
| 4 | 4-400V-00400 | CONNECTOR |
| 5 | 143-2-352T-24500 | SPACER |
| 6 | 411 104 7008 | SCR S-TPG BIN 2X5 |
| 7 | 143-2-132T-12100 | IR WINDOW |
| 8 | 411 100 0706 | SCR S-TPG FLT 2X10 |
| 9 | 143-2-128T-03600 | LID, BATTERY |
| 10 | 143-2-125T-09800 | CASE, BOTTOM |
| 11 | 143-0-233V-58300 | RM-1 ASSY. |
| 12 | 143-2-382T-03400 | TERMINAL, INCLUDE RM-1 |
| 13 | 143-2-382T-03300 | TERMINAL, INCLUDE RM-1 |
| 14 | 143-2-382T-03200 | TERMINAL |




## RM-1 BOARD (REMOTE CONTROL)
NO. 143-0-233V-58300

| Location | Part No. | Description |
|---|---|---|
| | | (CAPACITORS) |
| C1 | 403 041 9405 | ELECT 10U M 16V |
| C2 | 4-224V-15600 | TRIMMER |
| C3 | 403 017 7404 | CERAMIC 22P J 50V |
| C4 | 403 009 3407 | CERAMIC 100P J 50V |
| C5 | 403 009 3407 | CERAMIC 100P J 50V |
| C6 | 403 042 3006 | ELECT 100U M 16V |
| or | 403 042 3006 | ELECT 100U M 16V |
| C7 | 403 042 3006 | ELECT 100U M 16V |
| C8 | 403 002 1903 | CERAMIC 0.01U K 25V |
| C9 | 403 002 1903 | CERAMIC 0.01U K 25V |
| C10 | 403 002 1903 | CERAMIC 0.01U K 25V |
| | | (DIODES) |
| D1 | 407 017 3701 | LED SE303A |
| or | 407 094 6909 | LED LN66S |
| D2 | 407 017 3701 | LED SE303A |
| or | 407 094 6909 | LED LN66S |
| D3 | 407 008 5103 | DIODE MA151K |
| | | (INTETGRATED CIRCUIT) |
| IC1 | 409 125 2300 | IC MN158452ESJ |
| | | (TRANSISTOR) |
| Q1 | 405 060 3303 | TR UN1231 |
| | | (RESISTORS) |
| R1 | 401 012 2202 | CARBON 1.8 JA 1/4W |
| R2 | 401 012 2202 | CARBON 1.8 JA 1/4W |
| R3 | 401 035 8205 | MT-GLAZE 150K JA 1/8W |
| R9 | 401 035 4603 | MT-GLAZE 100 JA 1/8W |
| R10 | 401 036 8501 | MT-GLAZE 47K JA 1/8W |
| R11 | 401 036 8501 | MT-GLAZE 47K JA 1/8W |
| R12 | 401 036 8501 | MT-GLAZE 47K JA 1/8W |
| | | (MISCELLANEOUS) |
| X1 | 4-266V-01600 | RESONATOR |
| X2 | 4-225V-23100 | RESONATOR |

# BLOCK DIAGRAMS, CIRCUIT DIAGRAMS & PRINTED CIRCUIT BOARDS

# VHR-3500EX

(Europe)

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| P.C.B. TN-2 | TUNING CONTROL CIRCUIT & P.C.B. | |
| ———— | IR REMOTE CONTROL CIRCUIT | Ⓙ |


A11300 BP3/EX 7CH

REFERENCE NO. WM-21823

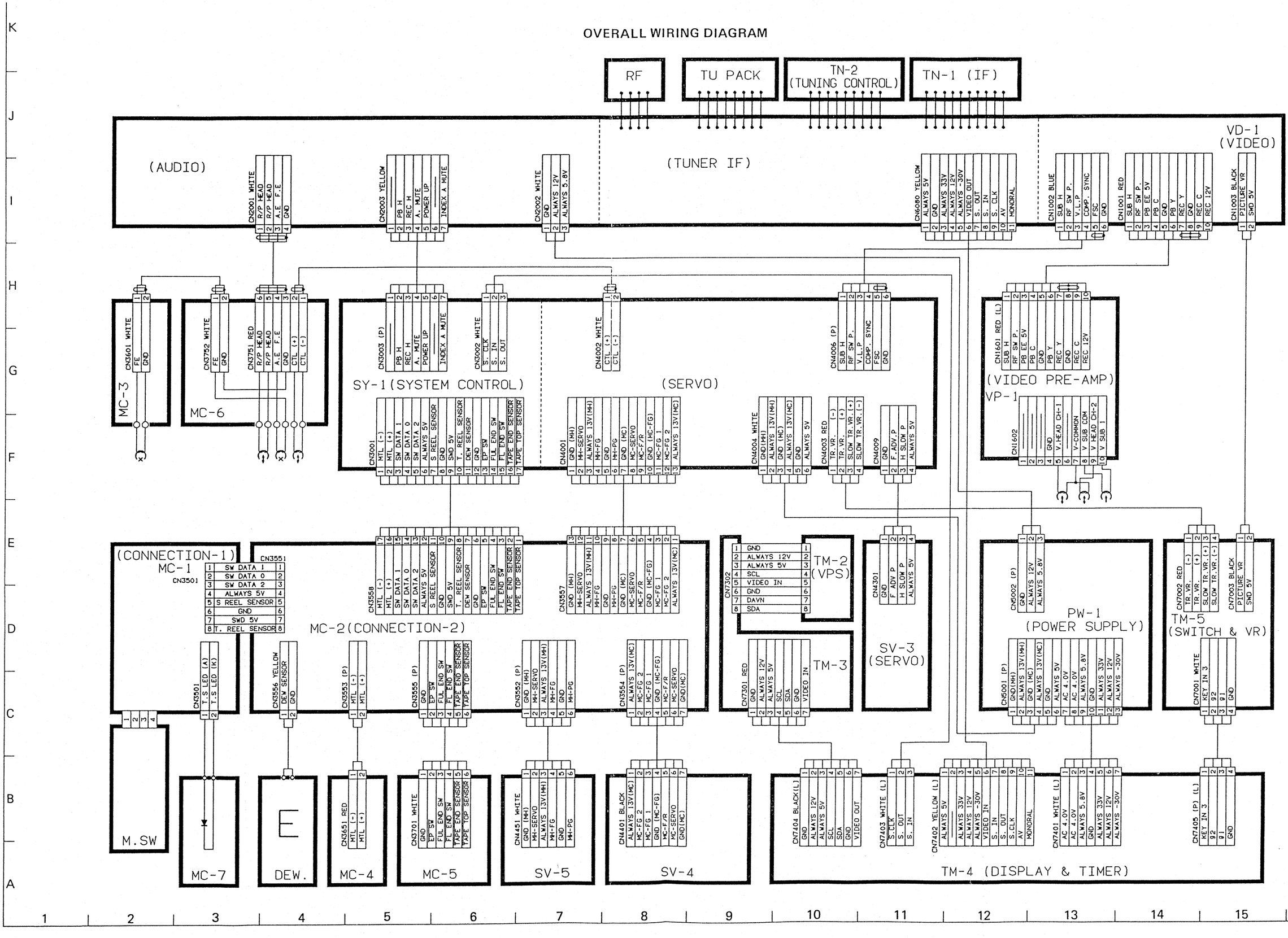
NOTES:

1. All resistance values in "OHMS" unless otherwise noted. (K=1,000 M=1,000,000)
2. All capacitance values in "μfd" unless otherwise noted.
   p=pico farad
3. All inductance values in "mH" unless otherwise noted. μ=micro henry

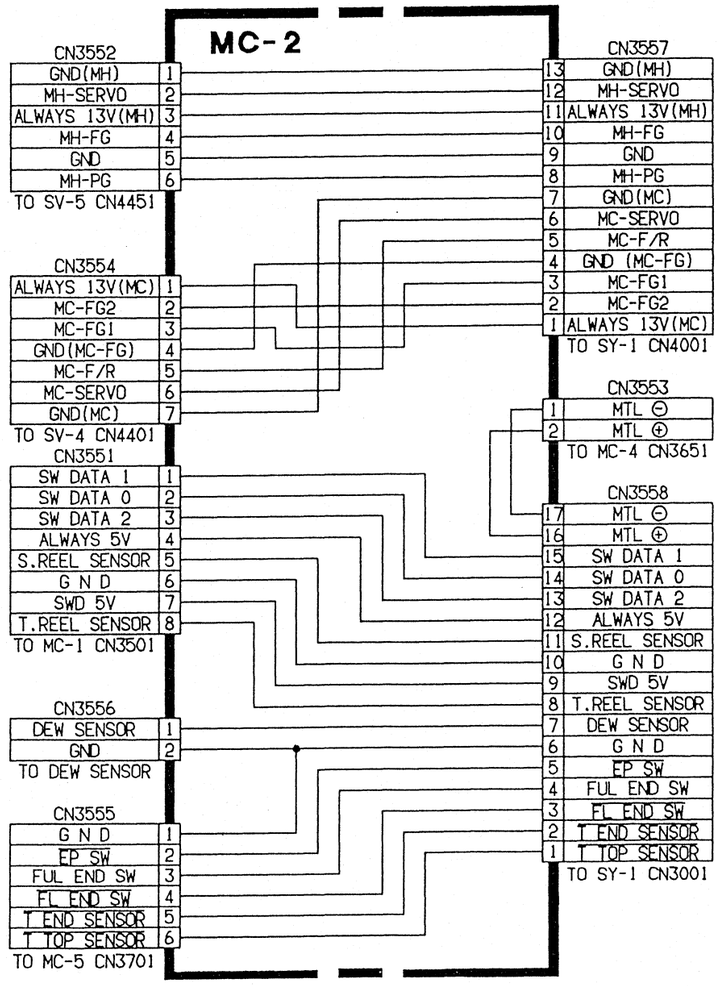
PRODUCT SAFETY NOTICE

THE COMPONENTS DESIGNATED BY A SYMBOL (⚠) IN THIS SCHEMATIC DIAGRAM DESIGNATES COMPONENTS WHOSE VALUE ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. SHOULD ANY COMPONENT DESIGNATED BY A SIMBOL NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST. DO NOT DEVIATE FROM THE RESISTANCE, WATTAGE AND VOLTAGE RATINGS SHOWN.

# OVERALL WIRING DIAGRAM



## P.C.B. MC-2 CONNECTION CIRCUIT (143-0-233V-26750)



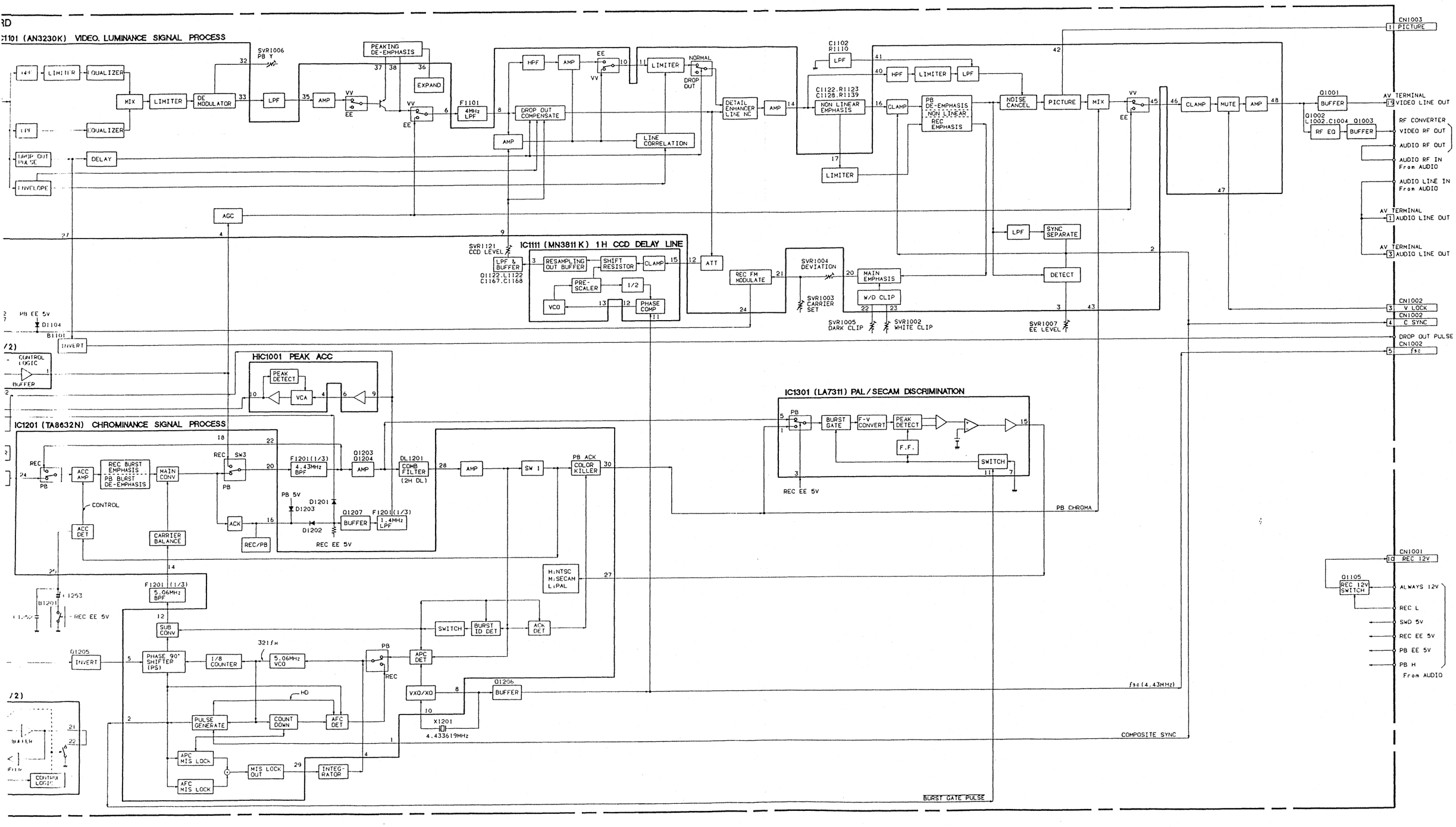

Ⓐ VHR-3500EX

6 | 17 | 18 | 19 | 20 | 21 | 22 | 23

# VIDEO CIRCUIT BLOCK DIAGRAM (VD-1 & VP-1 BOARDS)

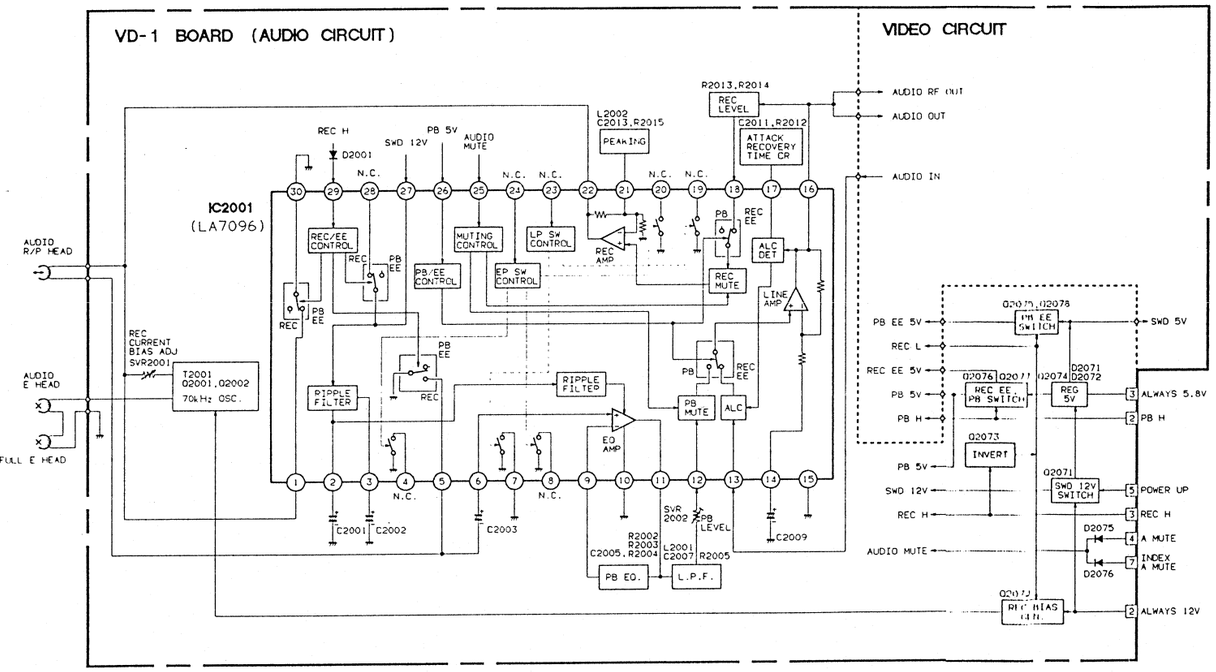
VHR-3500EX

# VIDEO CIRCUIT BLOCK DIAGRAM (VD-1 & VP-1 BOARDS)

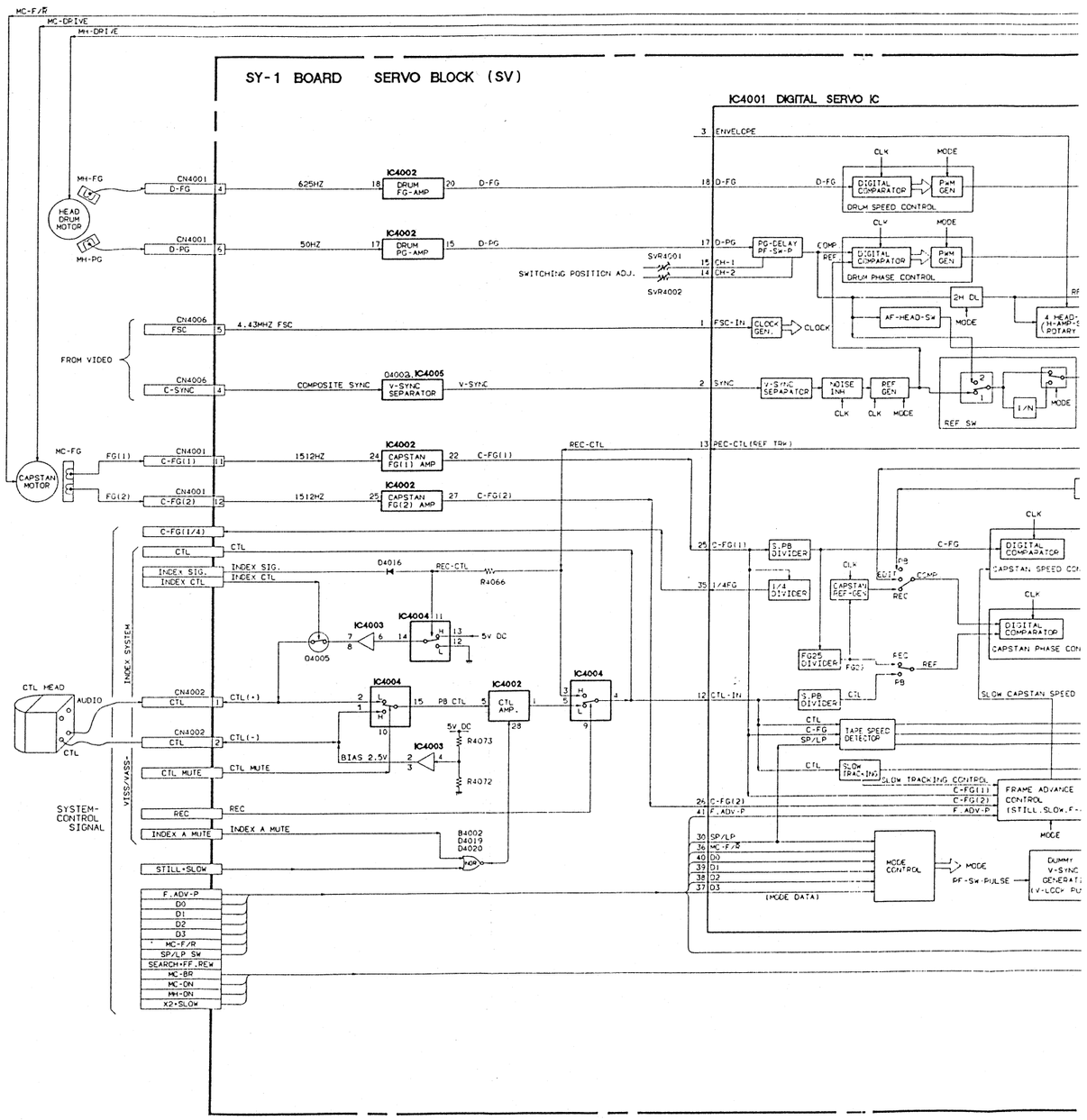



8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

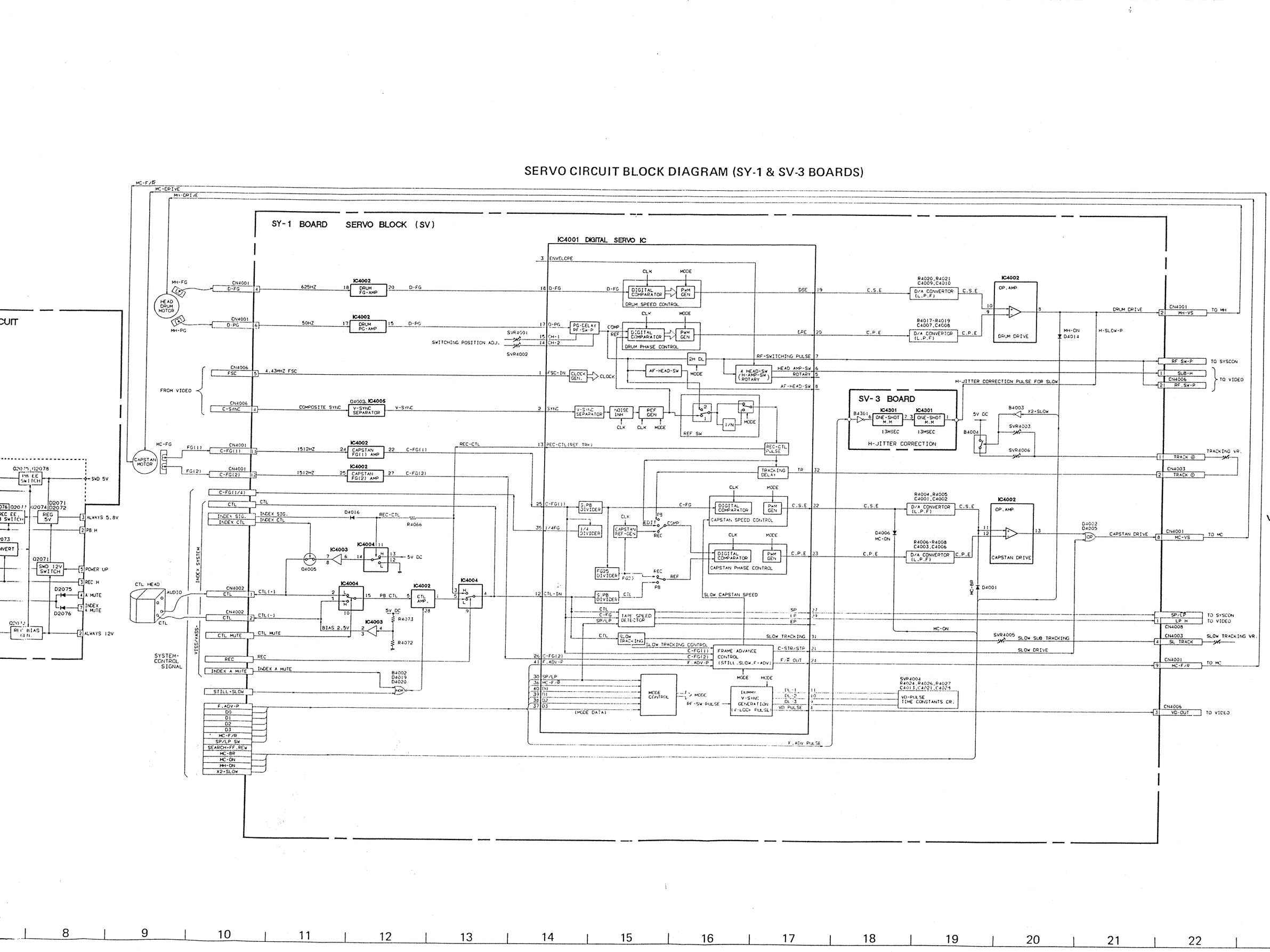
## AUDIO CIRCUIT BLOCK DIAGRAM (VD-1 BOARD)




## SERVO CIRCUIT BLOCK DIAGRAM (SY-1



# SERVO CIRCUIT BLOCK DIAGRAM (SY-1 & SV-3 BOARDS)


SY-1 BOARD SERVO BLOCK (SV)
IC4001 DIGITAL SERVO IC
SV-3 BOARD
H-JITTER CORRECTION
DRUM SPEED CONTROL
DRUM PHASE CONTROL
CAPSTAN SPEED CONTROL
CAPSTAN PHASE CONTROL
SLOW CAPSTAN SPEED
SWITCHING POSITION ADJ.
SYSTEM-CONTROL SIGNAL
INDEX SYSTEM
VISS/VASS
FROM VIDEO
TO SYSCON
TO VIDEO
TO MH
TO MC
SWD 5V
ALWAYS 5.8V
PB H
POWER UP
REC H
A MUTE
INDEX A MUTE
ALWAYS 12V
MH-DRIVE
MC-DRIVE
MC-F/R
DRUM DRIVE
CAPSTAN DRIVE
TRACKING VR.
SLOW TRACKING VR.
SLOW SUB TRACKING
SLOW DRIVE
MC-ON
MH-ON
H-SLOW-P
H-JITTER CORRECTION PULSE FOR SLOW
VD-OUT
F.ADV PULSE
(MODE DATA)
RF-SW-PULSE
VD-PULSE TIME CONSTANTS CR.
REC-CTL
SLOW TRACKING
SLOW TRACKING CONTROL
F.ADV-P
SEARCH+FF.REW
MC-BR
X2-SLOW
5V DC
BIAS 2.5V
CTL HEAD
AUDIO
CTL
HEAD DRUM MOTOR
CAPSTAN MOTOR
MH-FG
MH-PG
MC-FG
FG(1)
FG(2)
C-FG(1/4)
INDEX SIG.
INDEX CTL
CTL MUTE
REC
INDEX A MUTE
STILL+SLOW
4.43MHZ FSC
COMPOSITE SYNC
625HZ
50HZ
1512HZ
SVR4001
SVR4002
SVR4003
SVR4004
SVR4005
SVR4006
D4001
D4002
D4005
D4006
D4014
D4016
R4066
R4072
R4073
B4002
D4019
D4020
B4003
B4004
B4301
Q2075,Q2078
PW EE SWITCH
REG 5V
SWD 12V SWITCH
REC BIAS
D2071
D2072
D2075
D2076
Q2071
Q2072
Q2073
Q2077
R4020,R4021 C4009,C4010
R4017-R4019 C4007,C4008
R4004,R4005 C4001,C4002
R4006-R4008 C4003,C4006
SVR4004 R4024,R4026,R4027 C4013,C4021,C4024
IC4002 OP.AMP
IC4003
IC4004
IC4301 ONE-SHOT M.M
13MSEC
D/A CONVERTOR (L.P.F)
DIGITAL COMPARATOR
PWM GEN
PG-DELAY PF-SW-P
2H DL
AF-HEAD-SW
4 HEAD-SW (H-AMP-SW) (ROTARY
CLOCK GEN.
V-SYNC SEPARATOR
NOISE INH
REF GEN
REF SW
1/N
S.PB DIVIDER
1/4 DIVIDER
FG05 DIVIDER
CAPSTAN REF-GEN
CAPSTAN FG(1) AMP
CAPSTAN FG(2) AMP
CTL AMP.
TAPE SPEED DETECTOR
SLOW TRAC-ING
FRAME ADVANCE CONTROL (STILL.SLOW.F-ADV)
MODE CONTROL
DUMMY V-SYNC GENERATION (V-LOCK PULSE)
TRACKING DELAY
REC-CTL PULSE
CN4001
CN4002
CN4003
CN4004
CN4006
CN4008
IC4002 DRUM FG-AMP
IC4002 DRUM PG-AMP
IC4002 CAPSTAN FG(1) AMP
IC4002 CAPSTAN FG(2) AMP
IC4005 V-SYNC SEPARATOR
Q4003
Q4004
Q4005
Q4006
Q4007
Q4008
Q4009
Q4010
Q4011
Q4012
Q4013
Q4014
Q4015
Q4016
Q4017
Q4018
Q4019
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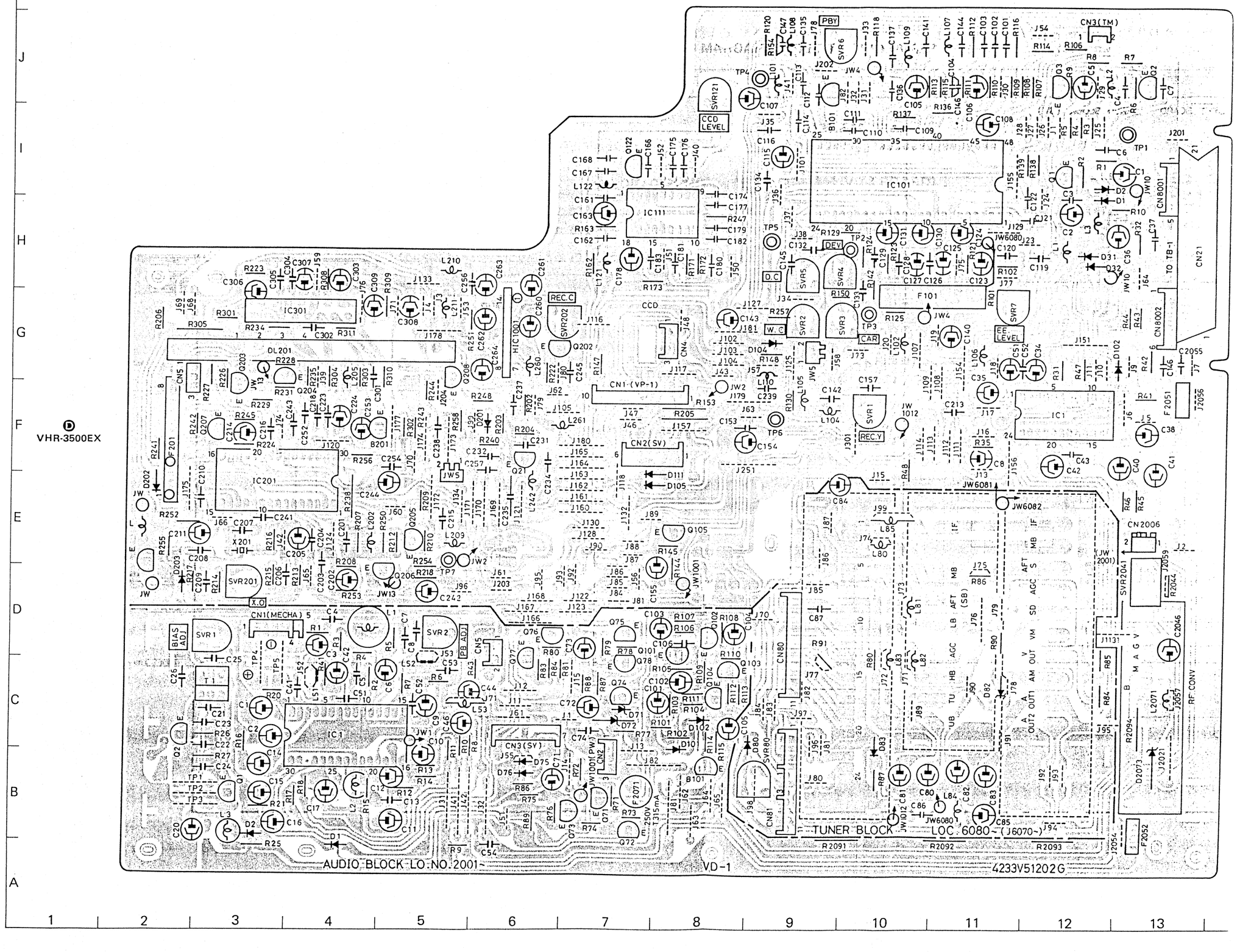
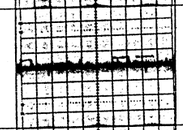
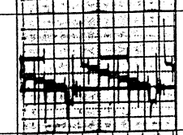
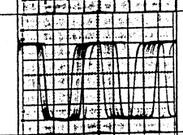
Q4041
Q4042

P.C.B. VD-1 VIDEO, AUDIO & TUNER (143-0-233V-51202)

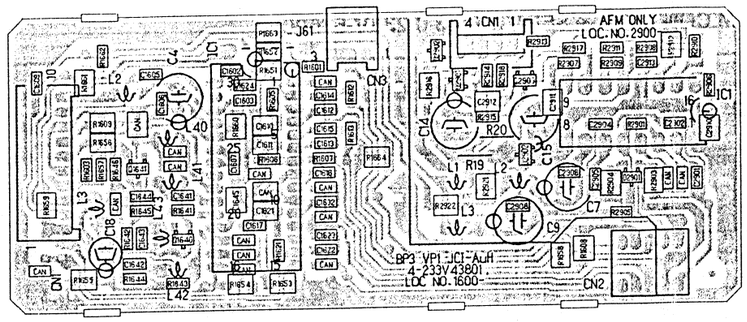
Ⓓ VHR-3500EX

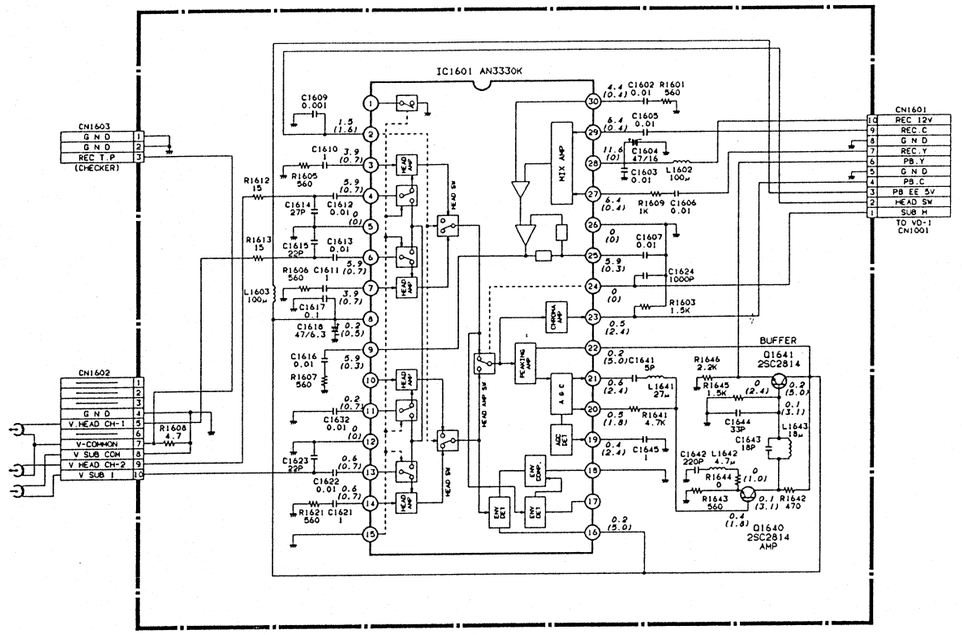


## WAVEFORM OF VIDEO

| Pin No. | | |
|---|---|---|
| IC1101 (2) | | 5 Vp-p 15.625 KHz |
| (8) | | PLAY 500 m Vp-p |
| (8) | | REC 500 m Vp-p |
| (10)(11) |  | PLAY 50 m Vp-p |
| (21) |  | REC 700 m Vp-p |
| (24) |  | REC 1 Vp-p |
| (25) | | PLAY 400 m Vp-p |
| (35) | | PLAY 300 m Vp-p |
| (43) | | PLAY 400 m Vp-p |
| TP1001 | | PLAY 1 Vp-p |

## P.C.B. VP-1 VIDEO PRE-AMP CIRCUIT & P.C.B. (143-0-233V-43801)

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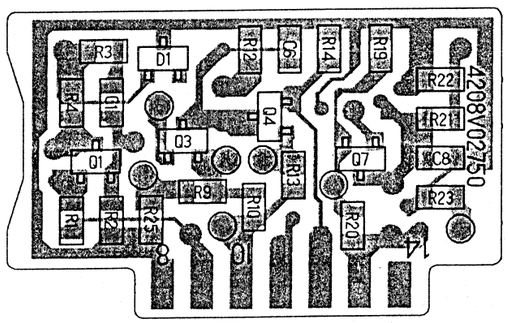
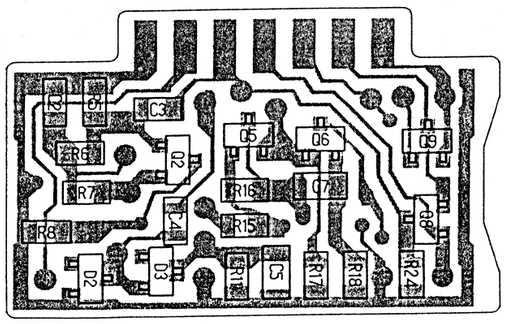
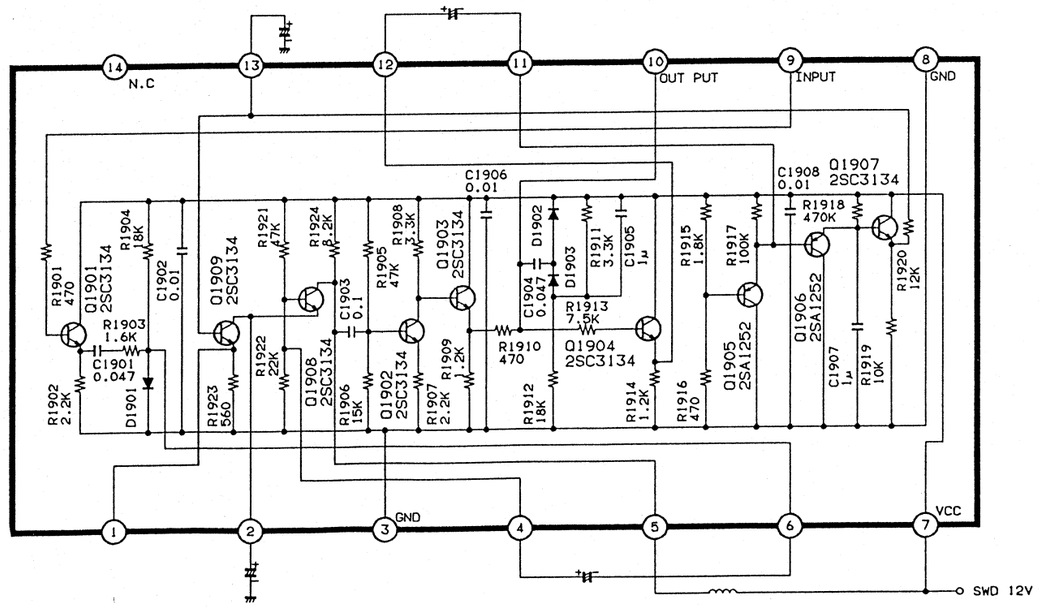
## SIDE A



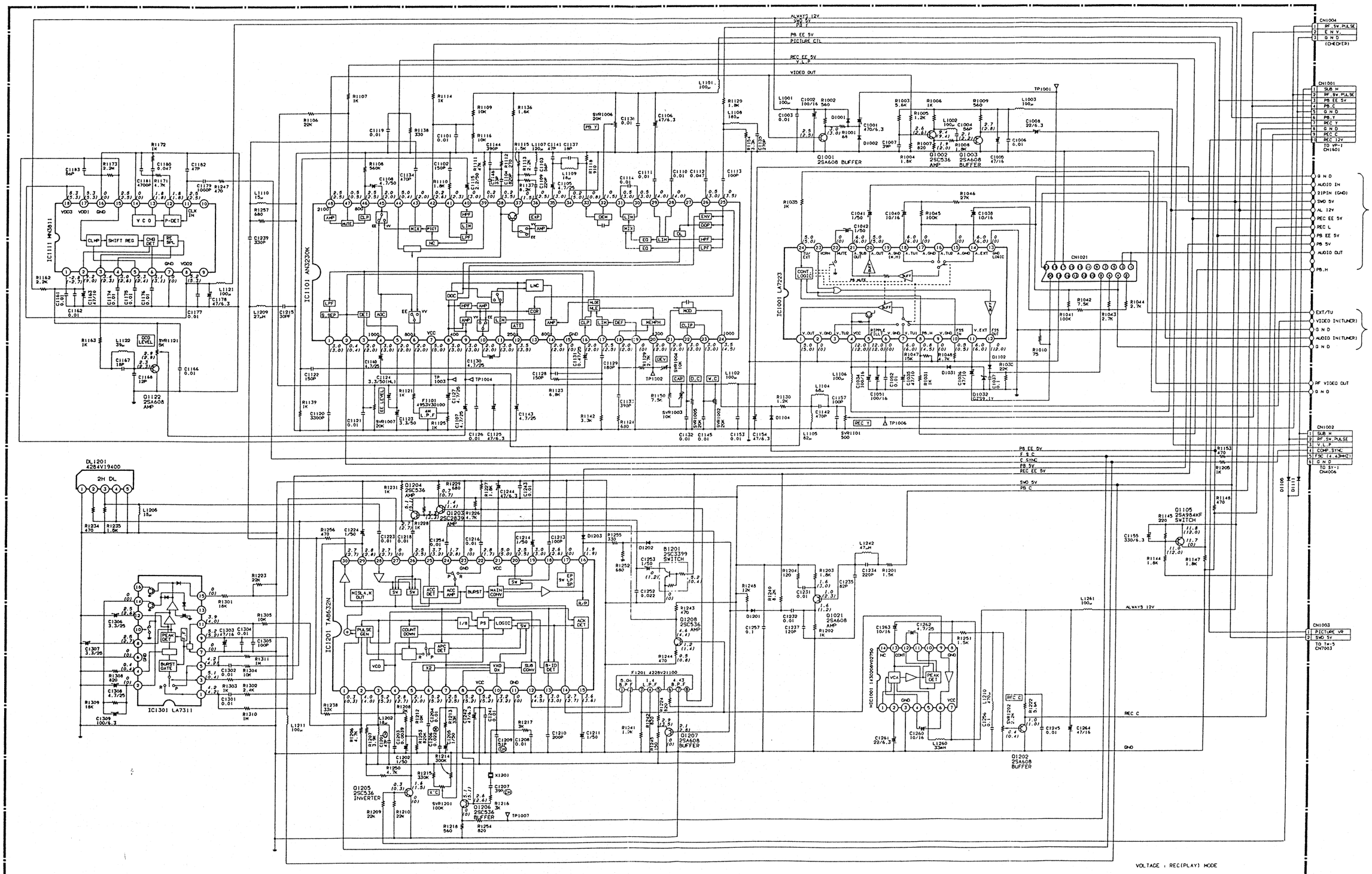

## SIDE B



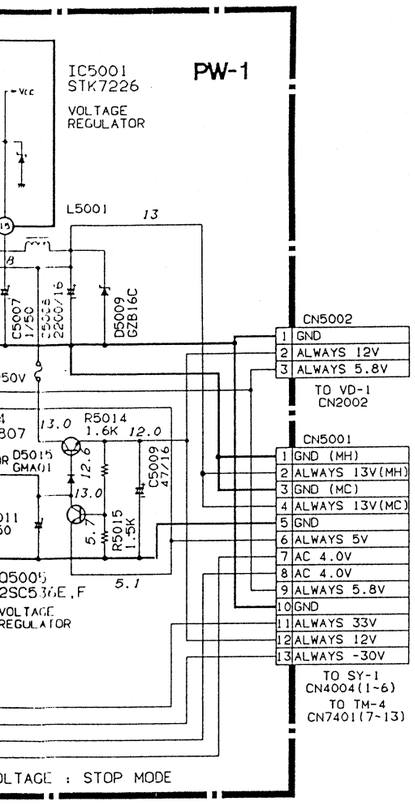
## HYBRID IC OF VIDEO CIRCUIT & P.C.B. (143-0-208V-02750)



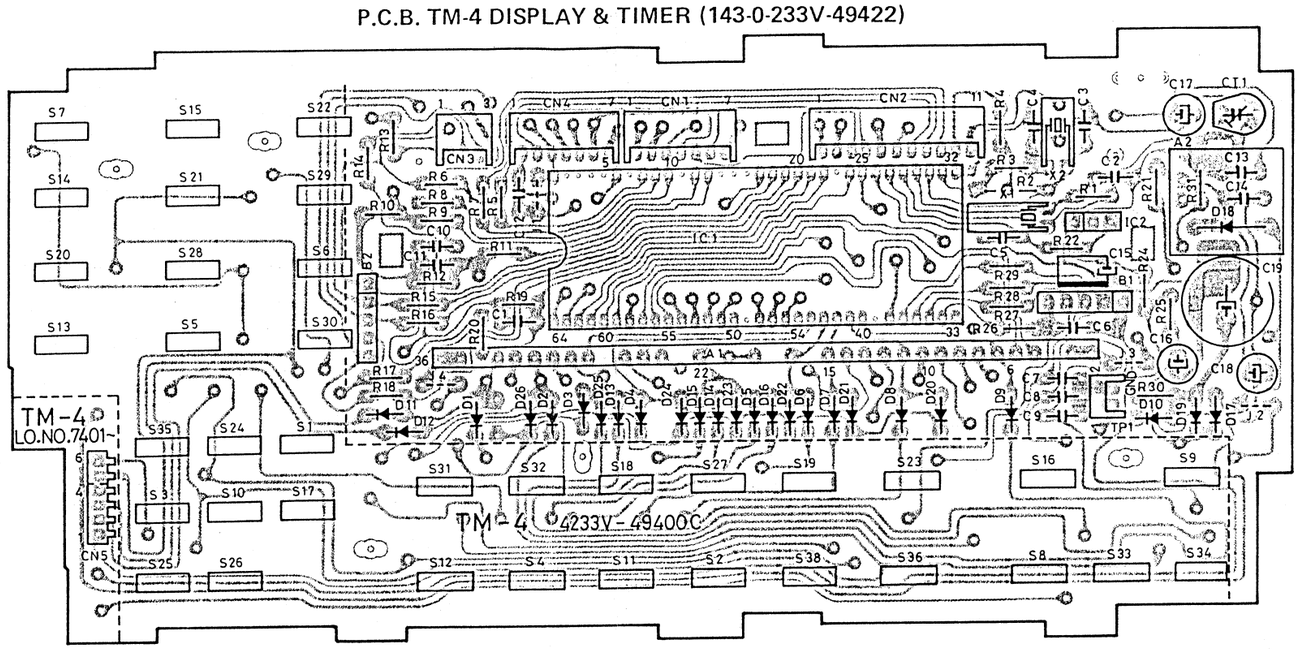
# P.C.B. VD-1 VIDEO CIRCUIT (143-0-233V-51202)



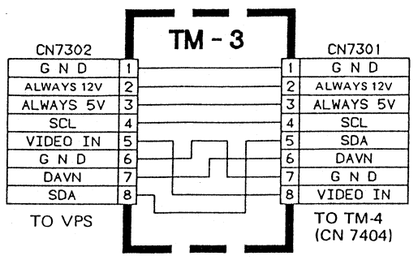
33V-43594)

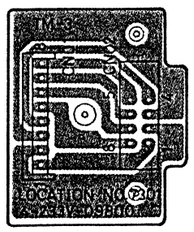



P.C.B. TM-4 DISPLAY & TIMER (143-0-233V-49422)

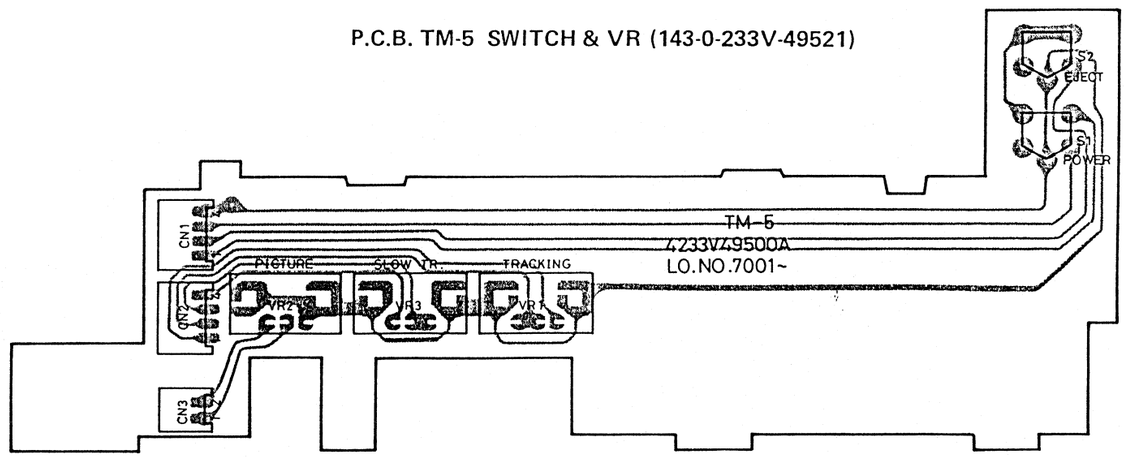



P.C.B. TM-3 VPS CONNECTION CIRCUIT & P.C.B. (143-0-233V-09824)



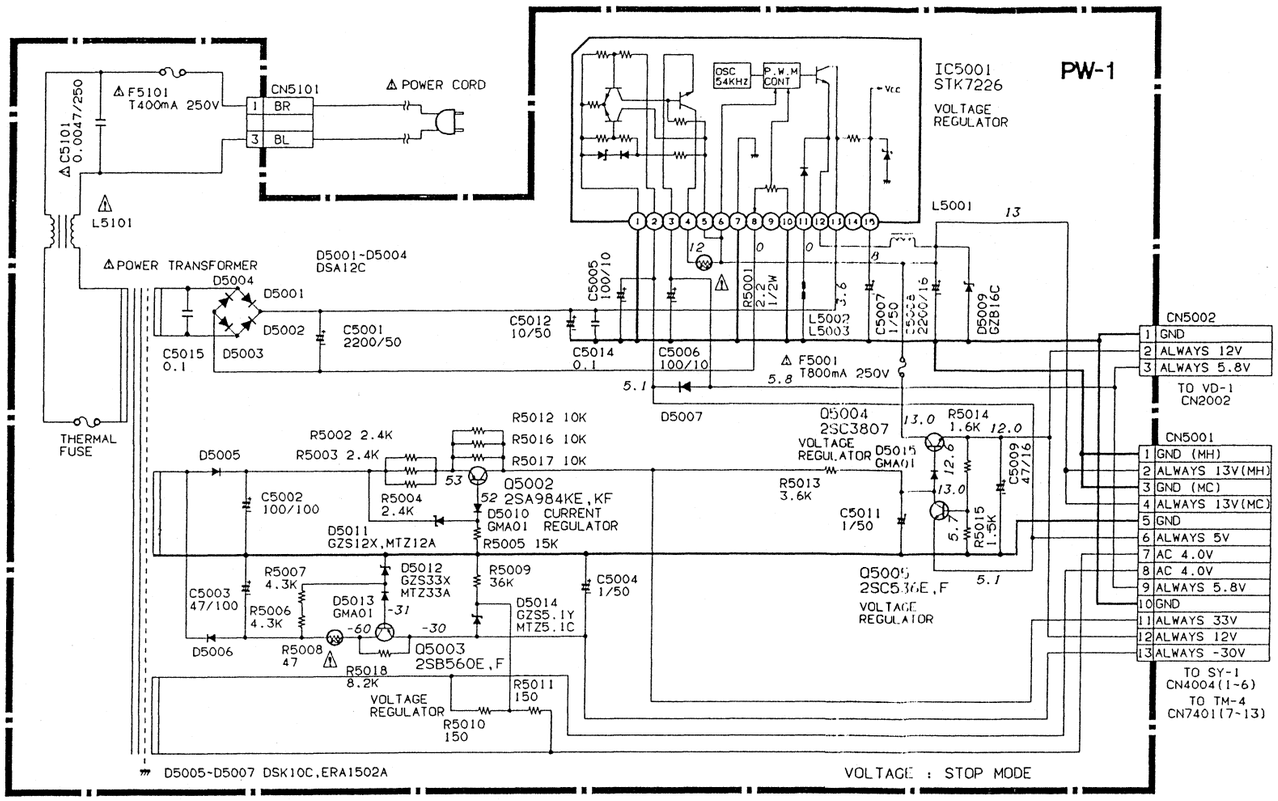




P.C.B. TM-5 SWITCH & VR (143-0-233V-49521)

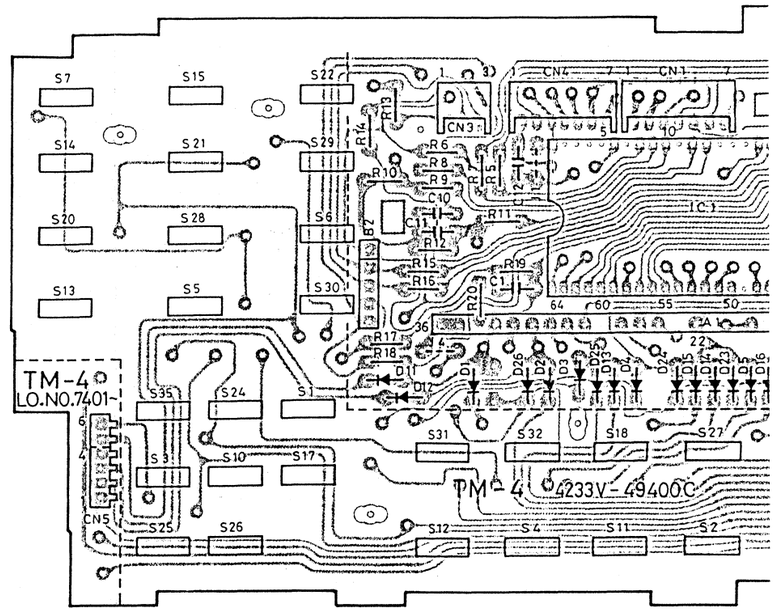



8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

## P.C.B. PW-1 POWER SUPPLY CIRCUIT & P.C.B. (143-0-233V-43594)




## P.C.B. TM-4 DISPLAY & TIMER (143-0-

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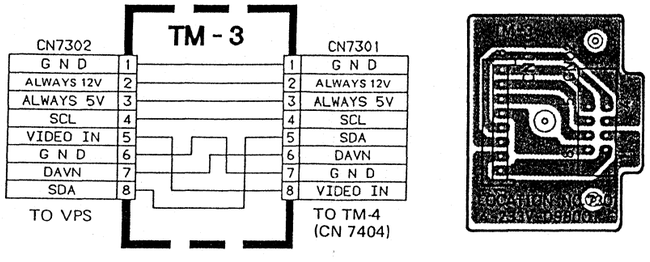
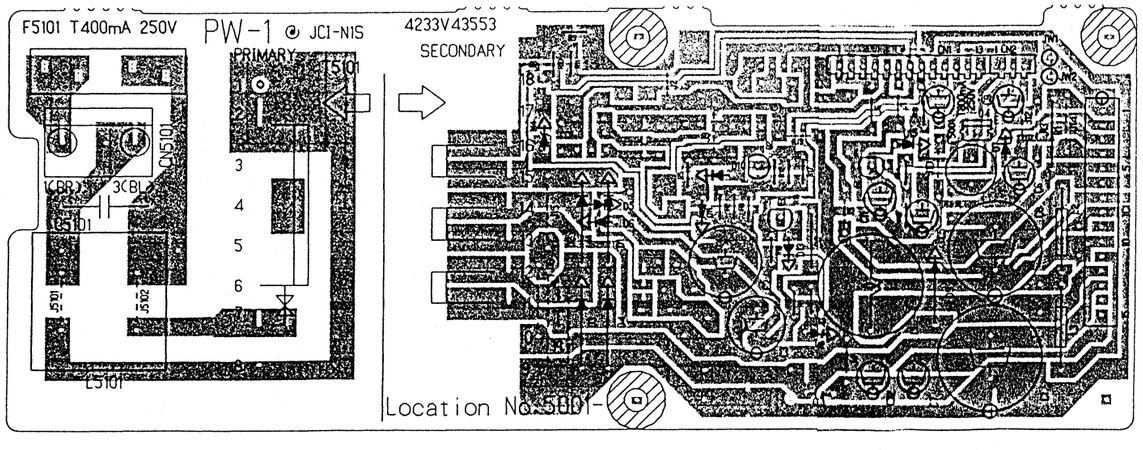
## P.C.B. TM-3 VPS CONNECTION CIRCUIT & P.C.B. (143-0-233V-09824)

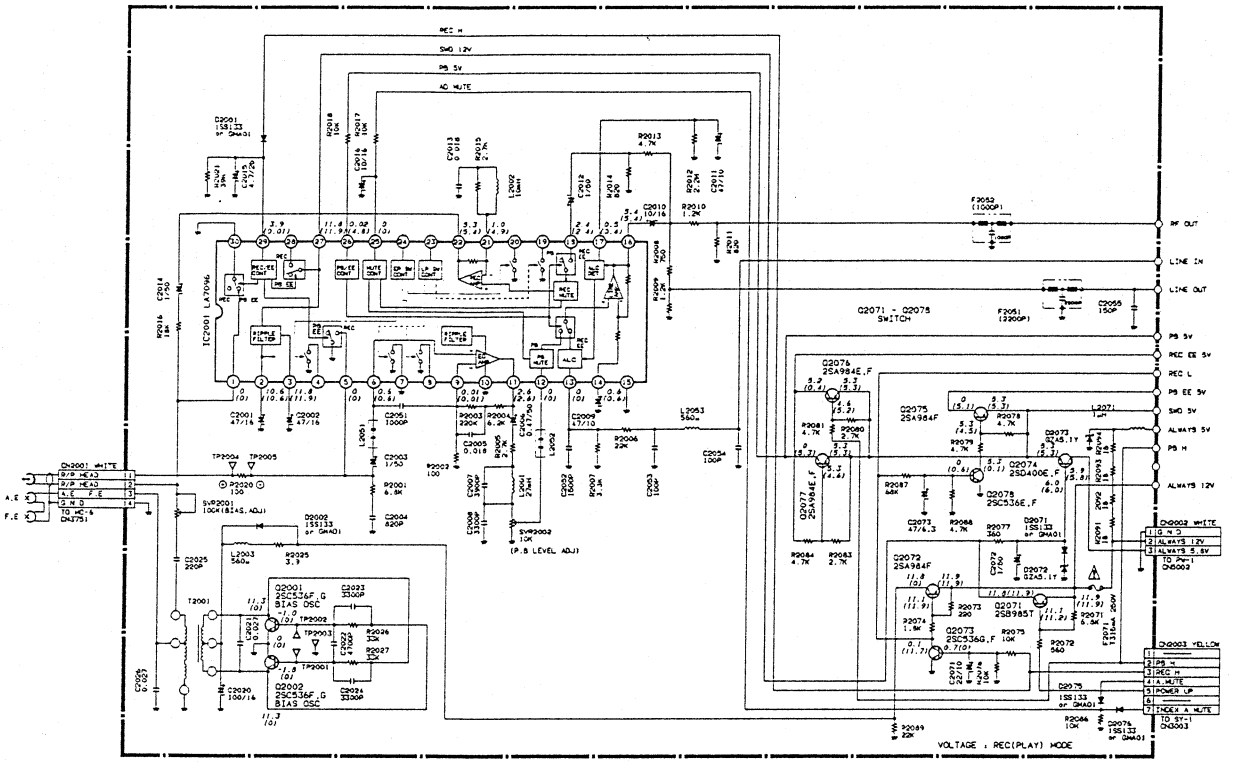




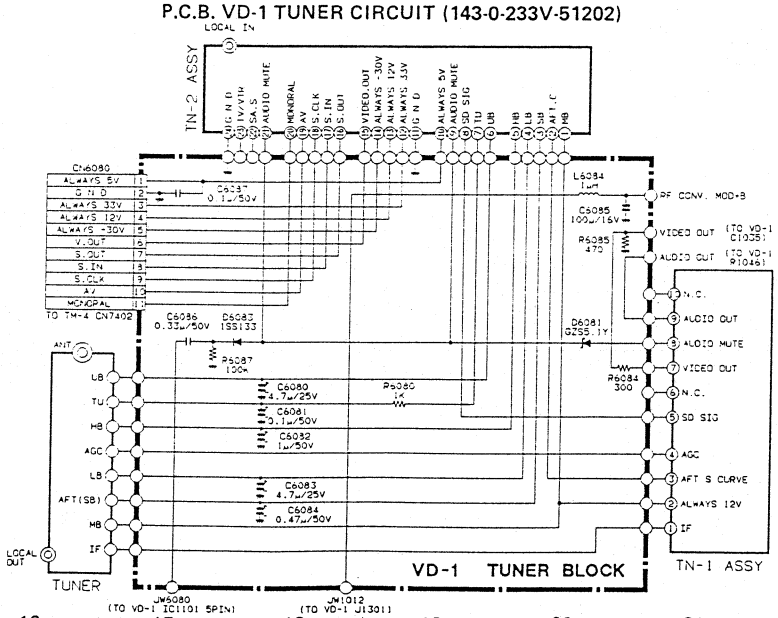




1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

## P.C.B. VD-1 AUDIO CIRCUIT (143-0-233V-51202)



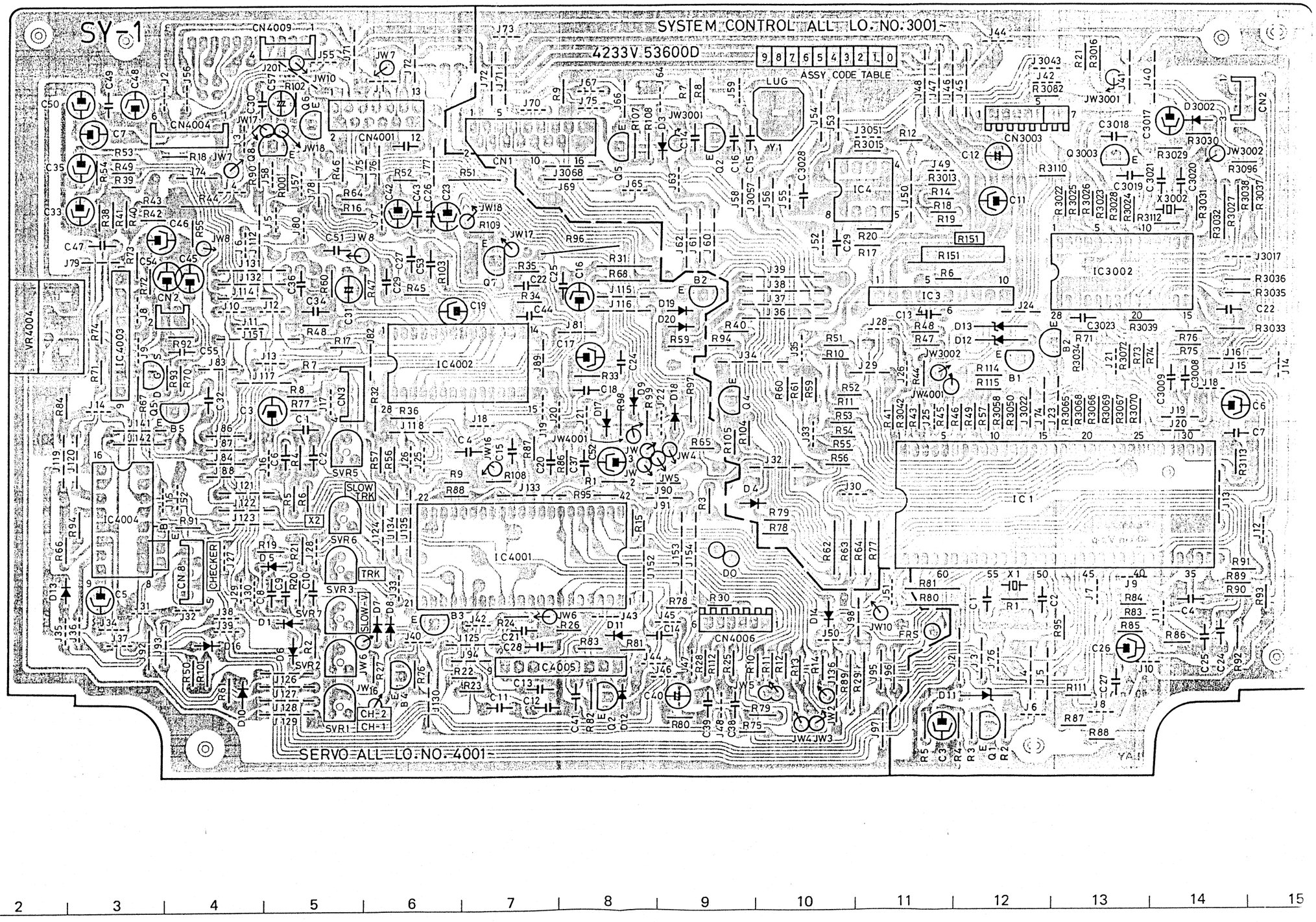

## P.C.B. VD-1 TUNER CIRCUIT (143-0-233V-51202)




14 15 16 17 18 19 20 21 22 23

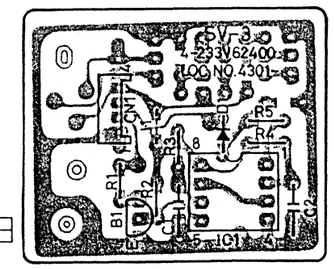
F
VHR-3500EX

## P.C.B. SY-1 SYSTEM CONTROL & SERVO (143-0-233V-53600)



# P.C.B. SY-1 SERVO CIRCUIT (143-0-233V-53600)

## P.C.B. SV-3 SERVO CIRCUIT & P.C.B. (143-0-233V-62400)




| HEX | D3 | D2 | D1 | D0 | MODE |
|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | STOP |
| 1 | 0 | 0 | 0 | 1 | FRONT LOAD |
| 2 | 0 | 0 | 1 | 0 | TAPE LOAD |
| 3 | 0 | 0 | 1 | 1 | FF•REW |
| 4 | 0 | 1 | 0 | 0 | SP* SPEED1 |
| 5 | 0 | 1 | 0 | 1 | SP* SPEED2 |
| 6 | 0 | 1 | 1 | 0 | EP* X1 |
| 7 | 0 | 1 | 1 | 1 | REC |
| 8 | 1 | 0 | 0 | 0 | EDIT |
| 9 | 1 | 0 | 0 | 1 | PB NOR 1 |
| A | 1 | 0 | 1 | 0 | PB NOR 2 |
| B | 1 | 0 | 1 | 1 | PBX2 |
| C | 1 | 1 | 1 | 0 | SEARCH SPX5 |
| D | 1 | 1 | 0 | 1 | SEARCH SPX9 |
| E | 1 | 1 | 1 | 0 | SLOW 1 |
| F | 1 | 1 | 1 | 1 | SLOW 2 |

VOLTAGE : REC(PLAY) MODE

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

# P.C.B. TM-4 DISPLAY & TIMER CIRCUIT (143-0-233V-49422)
# P.C.B. TM-5 SWITCH & VR CIRCUIT (143-0-233V-49521)

TM-4

A7401
FLUORESCENT DISPLAY

A7402
IR RECEIVER

CN7401
AC 4.0V 1
AC 4.0V 2
ALWAYS 5.8V 3
GND 4
ALWAYS 33V 5
ALWAYS 12V 6
ALWAYS -30V 7
TO PW-1 CN5001

CN7404
GND 1
ALWAYS 12V 2
ALWAYS 5V 3
SCL 4
SDA 5
GND 6
VIDEO OUT 7
TO TM-3 CN7301

CN7402
ALWAYS 5V 1
2
ALWAYS 33V 3
ALWAYS 12V 4
ALWAYS -30V 5
VIDEO IN 6
S.IN 7
S.OUT 8
S.CLK 9
AV 10
MONORAL 11
TO VD-1 CN6080

CN7403
S.CLK 1
S.OUT 2
S.IN 3
TO SY-1 CN3002

IC7401
M50955-698SP
TIMER & KEY SWITCH CONTROL

IC7402
MN1280L
RESET

TP7401
GND

S7435
ALL CLEAR

B7402 10K×4
B7401 10K×4

D7401 ~ D7409 } 1SS133
D7411 ~ D7416 }

D7409 D7408 D7407 D7406 D7405 D7404 D7403 D7402 D7401
S7401 PRESET
S7402 DISPLAY
S7403 CLOCK
S7404 PROGRAM
S7405
S7406 7
S7407 3
S7408 PAUSE
S7409 STOP
S7410 SEARCH FT-UP
S7411 AV
S7412 VPS ON/OFF
S7413
S7414 6
S7415 2
S7416 PLAY
S7417 SEARCH FT-DOWN
S7418 SEARCH
S7419 COUNTER RESET
S7420 9
S7421 5
S7422 1
S7423 REC
S7424 SYSTEM/ BAND/AFT
S7425 DIMMER
S7426 MEMORY
S7427 REPEAT/ MONI
S7428 8
S7429 4
S7430 0
S7436 SLOW

D7416 D7415 D7414 D7413
S7431 ERASE
S7432 MARK
S7433 FF
S7434 REW

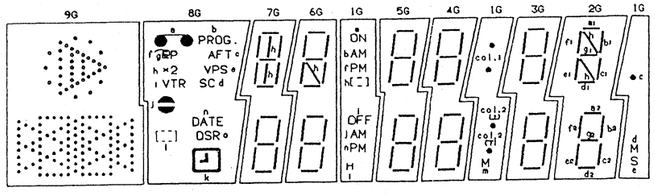
D7412
D7411
CN7405
1 KEY IN 3
2 92
3 91
4 GND
TO TM-5 CN7001

TO TUNER

## ANODE CONNECTION

| | 9G | 8G | 7G | 6G | 5G | 4G | 3G | 2G | 1G |
|---|---|---|---|---|---|---|---|---|---|
| a | B | | a1 | a1 | a1 | a1 | a1 | a1 | ON |
| b | A | PROG. | b1 | b1 | b1 | b1 | b1 | b1 | AM(1) |
| c | - | AFT | c1 | c1 | c1 | c1 | c1 | c1 | DP |
| d | - | SC | d1 | d1 | d1 | d1 | d1 | d1 | M(1) |
| e | - | VPS | e1 | e1 | e1 | e1 | e1 | e1 | S |
| f | C | EP | f1 | f1 | f1 | f1 | f1 | f1 | PM(1) |
| g | D | EP | g1 | g1 | g1 | g1 | g1 | g1 | col.1 |
| h | - | ×2 | | | - | - | - | | |
| i | - | VTR | a2 | a2 | a2 | a2 | a2 | a2 | OFF |
| j | E | | b2 | b2 | b2 | b2 | b2 | b2 | AM(2) |
| k | I | | c2 | c2 | c2 | c2 | c2 | c2 | col.2(T) |
| l | H | | d2 | d2 | d2 | d2 | d2 | d2 | H |
| m | J | - | e2 | e2 | e2 | e2 | e2 | e2 | M(2) |
| n | F | DATE | f2 | f2 | f2 | f2 | f2 | f2 | PM(2) |
| o | G | OSR | g2 | g2 | g2 | g2 | g2 | g2 | col.2(L) |

## GRID ASSIGNMENT




CN7002
TR.VR.⊖ 1
TR.VR.⊕ 2
SLOW TR.VR.⊕ 3
SLOW TR.VR.⊖ 4
TO SY-1 CN4003

VR7001 500KB
VR7003 500KB

CN7003
PICTURE VR 1
SWD 5V 2
TO VD-1 CN1003

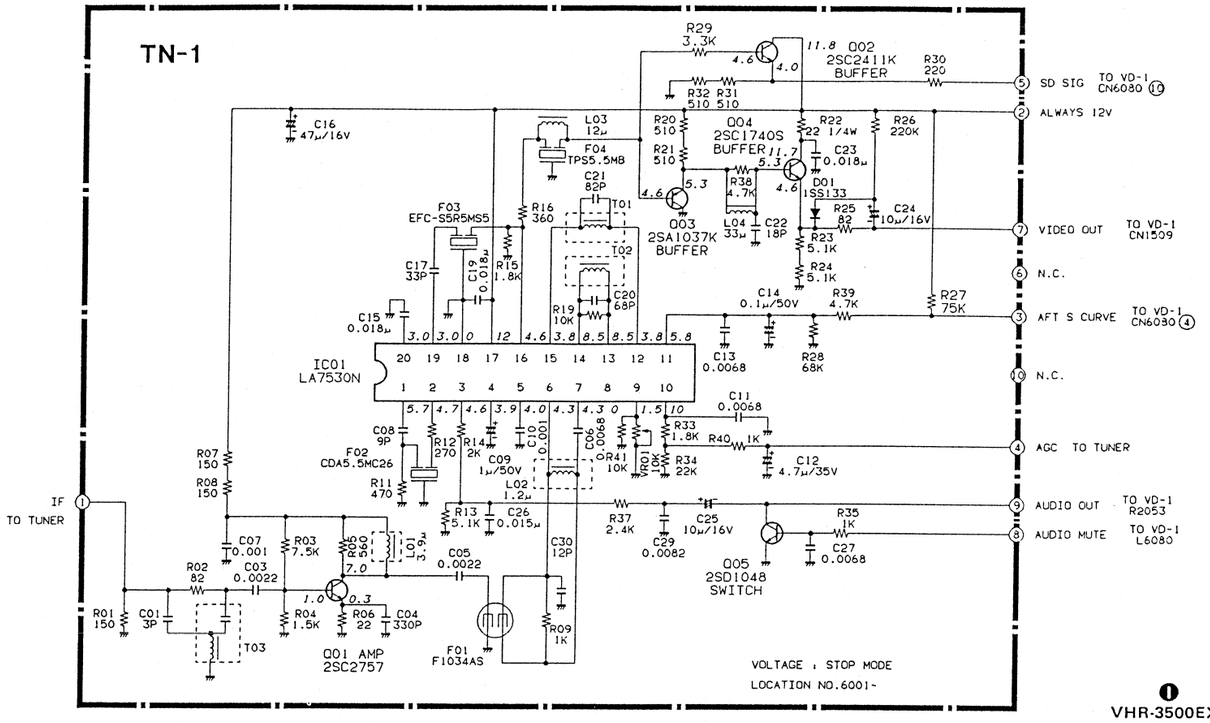
VR7002 5KB

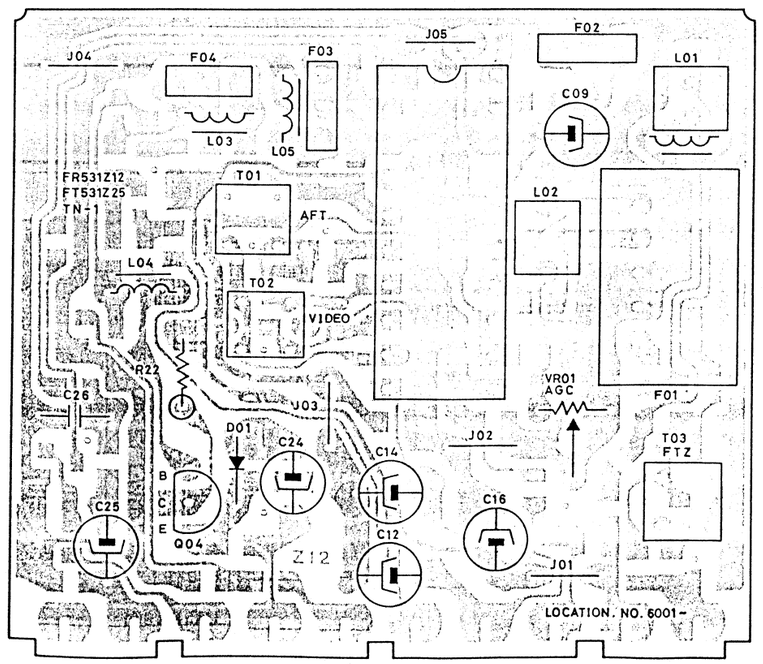
S7001 POWER
S7002 EJECT

CN7001
1 KEY IN 3
2 92
3 91
4 GND
TO TM-4 CN7405

TM-5

## P.C.B. TN-1 TUNER IF CIRCUIT & P.C.B. (143-9-4300-83300)




CN7405
KEY IN 3
12
11
GND
TO TM-5 CN7001

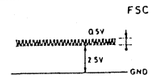
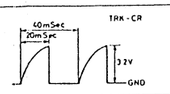
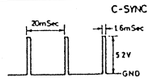
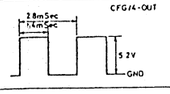
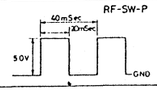
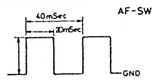
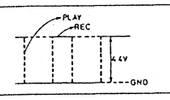
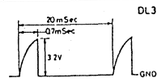
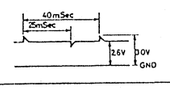
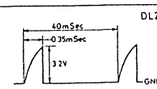
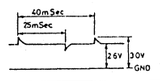
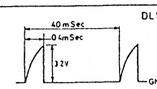
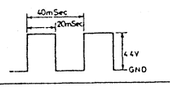
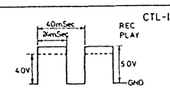
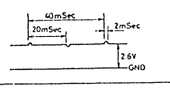
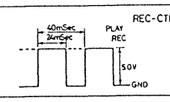
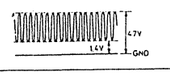
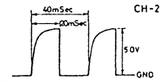
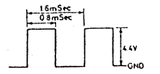
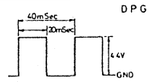
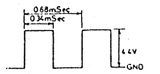
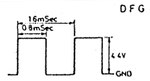
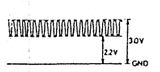
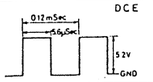
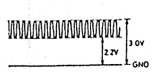
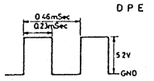
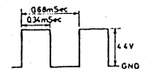
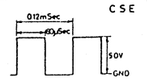
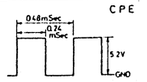
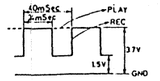
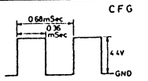
CN7001
KEY IN 3
12
11
GND
TO TM-4 CN7405

VHR-3500EX

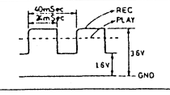
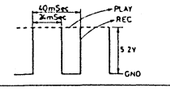
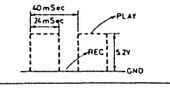
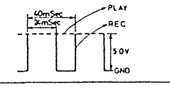
15 16 17 18 19 20 21 22

## WAVEFORM OF SERVO

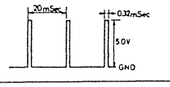
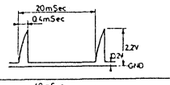
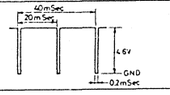
### IC 4001 (LA7413-8034)

| | | | |
|---|---|---|---|
| ① |  | ㉜ |  |
| ② |  | ㉟ |  |
| ⑦ |  | IC 4002 (LA7117) | |
| ⑧ |  | ① |  |
| ⑨ |  | ② |  |
| ⑩ |  | ③ |  |
| ⑪ |  | ⑮ |  |
| ⑫ |  | ⑰ |  |
| ⑬ |  | ⑲ |  |
| ⑭<br>⑮ |  | ⑳ |  |
| ⑰ |  | ㉒ |  |
| ⑱ |  | ㉓ |  |
| ⑲ |  | ㉖ |  |
| ⑳ |  | ㉗ |  |
| ㉒ |  | IC 4003 (BA718) | |
| ㉓ |  | ⑥ ⑦ ⑧ |  |
| ㉕<br>㉖ |  | | |

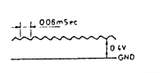
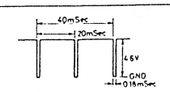
### IC 4004 (4053)

| | |
|---|---|
| ② |  |
| ③<br>④ |  |
| ⑤ |  |
| ⑪<br>⑭ |  |

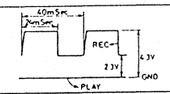
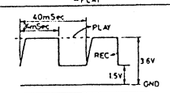
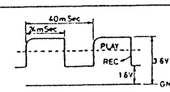
### IC 4005 (BA236A)

| | |
|---|---|
| ② |  |
| ③ |  |
| ④ |  |

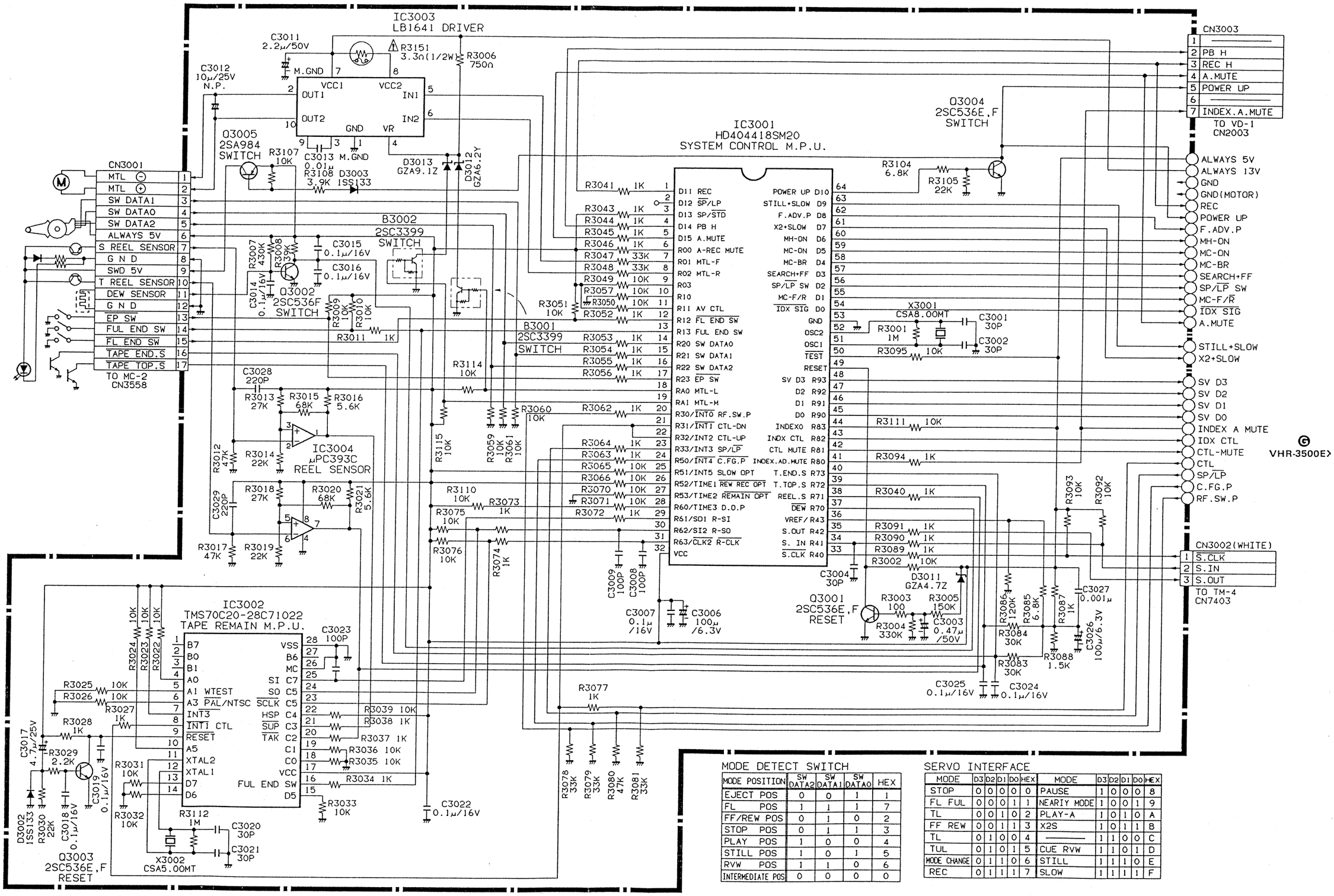
### Q 4002

| | |
|---|---|
| B |  |
| C |  |

### Q 4005

| | |
|---|---|
| D |  |
| G |  |
| S |  |

# P.C.B. SY-1 SYSTEM CONTROL CIRCUIT (143-0-233V-53600)



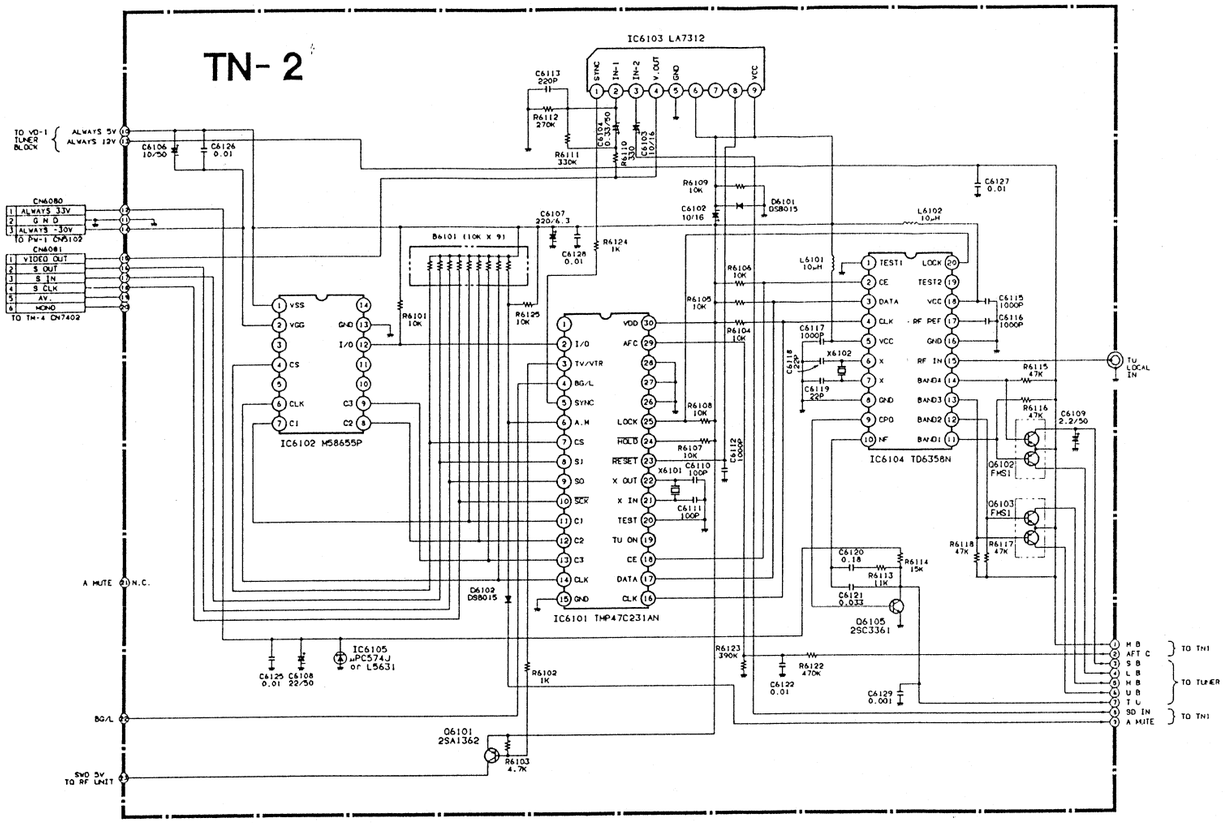

MODE DETECT SWITCH

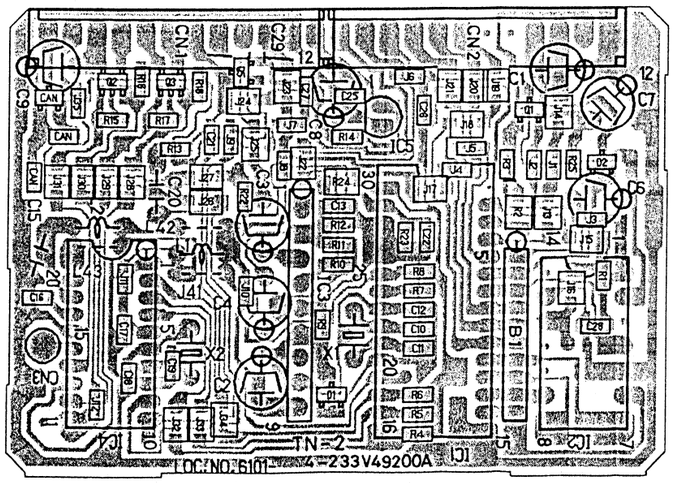
| MODE POSITION | SW DATA2 | SW DATA1 | SW DATA0 | HEX |
|---|---|---|---|---|
| EJECT POS | 0 | 0 | 1 | 1 |
| FL POS | 1 | 1 | 1 | 7 |
| FF/REW POS | 0 | 1 | 0 | 2 |
| STOP POS | 0 | 1 | 1 | 3 |
| PLAY POS | 1 | 0 | 0 | 4 |
| STILL POS | 1 | 0 | 1 | 5 |
| RVW POS | 1 | 1 | 0 | 6 |
| INTERMEDIATE POS | 0 | 0 | 0 | 0 |

SERVO INTERFACE

| MODE | D3 | D2 | D1 | D0 | HEX | MODE | D3 | D2 | D1 | D0 | HEX |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STOP | 0 | 0 | 0 | 0 | 0 | PAUSE | 1 | 0 | 0 | 0 | 8 |
| FL FUL | 0 | 0 | 0 | 1 | 1 | NEARIY MODE | 1 | 0 | 0 | 1 | 9 |
| TL | 0 | 0 | 1 | 0 | 2 | PLAY-A | 1 | 0 | 1 | 0 | A |
| FF REW | 0 | 0 | 1 | 1 | 3 | X2S | 1 | 0 | 1 | 1 | B |
| TL | 0 | 1 | 0 | 0 | 4 | ——— | 1 | 1 | 0 | 0 | C |
| TUL | 0 | 1 | 0 | 1 | 5 | CUE RVW | 1 | 1 | 0 | 1 | D |
| MODE CHANGE | 0 | 1 | 1 | 0 | 6 | STILL | 1 | 1 | 1 | 0 | E |
| REC | 0 | 1 | 1 | 1 | 7 | SLOW | 1 | 1 | 1 | 1 | F |

## P.C.B. TN-2 TUNING CONTROL CIRCUIT & P.C.B. (143-0-233V-49221)




## IR REMOTE CONTROL CIRCUIT (143-0-4100-68901)